

From: Page, Thurman
Sent: Friday, March 21, 2003 3:00 PM
T : STIC-Biotech/ChemLib
Cc: Bertoglio, Valarie
Subject: FW: SEQUENCE RUSH

Importance: High

RUSH SEARCH APPROVED BASED ON FILING DATE.

Examiner Bertoglio,
Please send reasons with request. I assumed the rush is based on filing date.
thanks

Thurman K. Page
SPE, Art Unit 1615
Cm1- 2B01
703-308-2927

-----Original Message-----

From: Bertoglio, Valarie
Sent: Friday, March 21, 2003 2:57 PM
To: Page, Thurman
Cc: Chan, Christina; Hutzell, Paula
Subject: FW: SEQUENCE RUSH

I would like to request a search of SEQ ID NO1 against the commercial protein databases for application 10/039645, first named inventor:Kopin, Alan

Valarie Bertoglio

Valarie Bertoglio
Patent Examiner
Art Unit 1632
Room 12A16 CM1
Mailbox: 12E12 CM1
(703) 305-5469

POINT OF CONTACT:
PAUL SCHULWITZ
TECHNICAL INFO. SPECIALIST
CM1 6B06 TEL. (703) 305-1954

Searcher: _____
Phone: _____
Location: _____
Date Picked Up: 3/25
Date Completed: 3/25
Searcher Prep/Review: _____
Clerical: _____
Online time: _____

TYPE OF SEARCH:
NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST (where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: _____
WWW/Internet: _____
Other (specify): _____

RECEIVED
MAR 21 2003
STIC-Biotech/ChemLib
(STIC)

BEST AVAILABLE COPY

PS Disclosure, Page 190-194; 266pp; English.
XX A 365 bp fragment of the mouse delta opiate receptor was used to
CC screen a rat brain cDNA library under low stringency conditions.
CC One positive clone included the sequence given in AA08222, encoding a
CC mu opiate receptor, MOR-1 (AAR71964). MOR-1 was stably expressed in
CC transfected CHO cells.
XX

XX Sequence 398 AA;
XX

Query Match 100.0%; Score 2111; DB 16; Length 398;
Best Local Similarity 100.0%; Pred. No. 1,1e-223;
Matches 398; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDSSTGPTSDSCDPLAQAQSCSPAPGSLNLSHVQDQSDPCGLNRTGLGNDSLCPQT 60
DB 1 MDSSTGPTSDSCDPLAQAQSCSPAPGSLNLSHVQDQSDPCGLNRTGLGNDSLCPQT 60
QY 61 GSPSMVTAITIMALYSIVCVGLPCNPLVMVIVRYTKMTATNIYIPNLADALATST 120
DB 61 GSPSMVTAITIMALYSIVCVGLPCNPLVMVIVRYTKMTATNIYIPNLADALATST 120
QY 121 LPQSVNYLQGTWPPTGLCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPVKALDPT 180
DB 121 LPQSVNYLQGTWPPTGLCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPVKALDPT 180
QY 181 PRNAXIVNVCNWLSSAIGLPMVPMATTKYQGSIDCTLT7SHPTWYWNLLKICVPIFA 240
DB 181 PRNAXIVNVCNWLSSAIGLPMVPMATTKYQGSIDCTLT7SHPTWYWNLLKICVPIFA 240
QY 241 FIMPILLITVCGLMLRLKSVRLSGSKEDNRIRITRMVLVVAIVFVCMPTPIHYV 300
DB 241 FIMPILLITVCGLMLRLKSVRLSGSKEDNRIRITRMVLVVAIVFVCMPTPIHYV 300
QY 301 IIKALITPBTFTQTSWHPFALQYNSCLNPLVYALDENPKCFRCFCPTSTSTIEQ 360
DB 301 IIKALITPBTFTQTSWHPFALQYNSCLNPLVYALDENPKCFRCFCPTSTSTIEQ 360
QY 361 QNSTVRQNTREHPSTANTVDRTNHOLENLEATAPLP 398
DB 361 QNSTVRQNTREHPSTANTVDRTNHOLENLEATAPLP 398

RESULT 2
AAB07864
ID AAB07864 standard; Protein; 398 AA.
XX
XX AAB07864;
XX 14-NOV-2000 (first entry)
XX

XX Amino acid sequence of a mu opiate receptor polypeptide.
XX mu opiate receptor; transcription regulatory polypeptide;
XX opiate receptor-like polypeptide.
XX

XX Rattus sp.
XX US6103492-A.
XX 15-AUG-2000.
XX 07-JUL-1997; 97US-0889108.
XX 13-SEP-1994; 94US-0305518.
XX 08-MAR-1993; 93US-0056886.
XX 13-SEP-1993; 93US-0120601.
XX (INDV) UNIV INDIANA.
XX Yu L;
XX WPI; 2000-542550/49.
XX

DR N-PSDB; AA59499.
XX Novel nucleic acids encoding mu opiate receptor for expressing large
XX quantities opiate receptors which are useful for screening and
XX evaluating subtype-selective drugs and as probes or primers -
XX
XX Example 1; Column 91-94; 86pp; English.

XX The present sequence represents a mu opiate receptor protein. The
XX specification also describes a transfection agent for opiate receptor
XX expression. The present sequence represents a mu opiate receptor
XX polypeptide which is useful as a source of probes and primers, which
XX may be used as diagnostic tools to detect normal and abnormal DNA
XX sequences in DNA derived from patient cells. They are also used as
XX a means for detecting and isolating other members of the polypeptide
XX family and related polypeptides from a DNA library potentially
XX containing such sequences. The polynucleotide is used for preparing
XX large quantities of opiate receptor which on expression in
XX microorganism can be useful for evaluating subtype-selective drugs.
XX

XX Sequence 398 AA;
XX

Query Match 100.0%; Score 2111; DB 21; Length 398;
Best Local Similarity 100.0%; Pred. No. 1,1e-223;
Matches 398; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MDSSTGPTSDSCDPLAQAQSCSPAPGSLNLSHVQDQSDPCGLNRTGLGNDSLCPQT 60
DB 1 MDSSTGPTSDSCDPLAQAQSCSPAPGSLNLSHVQDQSDPCGLNRTGLGNDSLCPQT 60
QY 61 GSPSMVTAITIMALYSIVCVGLPCNPLVMVIVRYTKMTATNIYIPNLADALATST 120
DB 61 GSPSMVTAITIMALYSIVCVGLPCNPLVMVIVRYTKMTATNIYIPNLADALATST 120
QY 121 LPQSVNYLQGTWPPTGLCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPVKALDPT 180
DB 121 LPQSVNYLQGTWPPTGLCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPVKALDPT 180
QY 181 PRNAXIVNVCNWLSSAIGLPMVPMATTKYQGSIDCTLT7SHPTWYWNLLKICVPIFA 240
DB 181 PRNAXIVNVCNWLSSAIGLPMVPMATTKYQGSIDCTLT7SHPTWYWNLLKICVPIFA 240
QY 241 FIMPILLITVCGLMLRLKSVRLSGSKEDNRIRITRMVLVVAIVFVCMPTPIHYV 300
DB 241 FIMPILLITVCGLMLRLKSVRLSGSKEDNRIRITRMVLVVAIVFVCMPTPIHYV 300
QY 301 IIKALITPBTFTQTSWHPFALQYNSCLNPLVYALDENPKCFRCFCPTSTSTIEQ 360
DB 301 IIKALITPBTFTQTSWHPFALQYNSCLNPLVYALDENPKCFRCFCPTSTSTIEQ 360
QY 361 QNSTVRQNTREHPSTANTVDRTNHOLENLEATAPLP 398
DB 361 QNSTVRQNTREHPSTANTVDRTNHOLENLEATAPLP 398

RESULT 3
AAR76781
ID AAR76781 standard; Protein; 398 AA.
XX
XX AAR76781;
XX 11-DEC-1995 (first entry)
XX

XX Rat mu opiate receptor.
XX Mu opiate receptor; MOR; opiate agonist; opiate antagonist;
XX drug abuse; analgesic.
XX

XX Rattus sp.
XX W09520667-A1.
XX 03-AUG-1995.
XX

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XX 30-JAN-1995; 95MO-US01144.
XX
XX 28-JAN-1994; 94US-0188275.
XX
XX (US9H ) US DBPT HEALTH & HUMAN SERVICES.
XX (US9H ) US SSC DSPT HEALTH.
XX
XX Johnson-PS, P&Sico MM, Uhl G, Wang J;
XX
XX MPI; 1995-275452/36.
XX
XX New DNA encoding human mu opiate receptor - used esp. for screening
XX cpds. for activity as opiate agonists or antagonists
XX
XX Disclosure; Page 26-28; 49pp; English.
XX
XX hMOR cDNA was obtd. from a human cerebral cortical cDNA library
XX screened with fragments of a rat mu opiate receptor. The encoded
XX protein showed homology to rat mu, delta and kappa opiate
XX receptors (AM781-83).
XX
XX Sequence 398 AA;
SQ
Query Match 100.0%; Score 2110; DB 16; Length 398;
Best Local Similarity 99.7%; Pred. No. 1.4e-223;
Matches 397; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
OY 1 MDSTGPTGNTSCDPLAQAACSPAPGSMNLNLSHYDQNSDPCCLNRTGLGNSLCPQT 60
DB 1 MDSTGPTGNTSCDPLAQAACSPAPGSMNLNLSHYDQNSDPCCLNRTGLGNSLCPQT 60
OY 61 GSPSWTAITIALYSIVCVGLGPNFLVMYVIVRYTOMKTATNIYIFNLADALATST 120
DB 61 GSPSWTAITIALYSIVCVGLGPNFLVMYVIVRYTOMKTATNIYIFNLADALATST 120
OY 121 LPFQSVNYLGMTWPPGTLCKIVISIDYNNMPTSIPFLCTNSVDRIYAVCHPVKALDPT 180
DB 121 LPFQSVNYLGMTWPPGTLCKIVISIDYNNMPTSIPFLCTNSVDRIYAVCHPVKALDPT 180
OY 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPYWNELKICVPFIPA 240
DB 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPYWNELKICVPFIPA 240
OY 241 PIMPLIITVCYGLMILKLSVRLSGSKORNLRIETRMVLVVAVFVCMTPHIYV 300
DB 241 PIMPLIITVCYGLMILKLSVRLSGSKORNLRIETRMVLVVAVFVCMTPHIYV 300
OY 301 IIKALITIPETTPQVSMHFCIALGYTNSCLNPVLYAFDENPKCPFBFCIPTSSTIEQ 360
DB 301 IIKALITIPETTPQVSMHFCIALGYTNSCLNPVLYAFDENPKCPFBFCIPTSSTIEQ 360
OY 361 QNSTVRONTREHSTANTVORTNHOLENLEASTAPLP 398
DB 361 QNSTVRONTREHSTANTVORTNHOLENLEASTAPLP 398
RESULT 4
AAU80494
XX
XX AAU80494;
XX
XX 06-JUN-2000 (first entry)
XX
XX Rat mu-opioid receptor.
XX
XX Mammalian; Norway rat; PCR primer; methadone-specific opioid receptor;
XX psychotropic drug.
XX
XX Rattus norvegicus.
XX
XX US028175-A.

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XX 22-FEB-2000.
XX
XX 13-OCT-1998; 98US-0170331.
XX
XX 08-NOV-1993; 93US-0149093.
XX 15-AUG-1997; 97US-0911245.
XX
XX (UYOR-) UNIV ORBON HEALTH SCI.
XX
XX Civelli O, Bunzow JR, Grandy DK;
XX
XX MPI; 2000-194856/17.
XX
XX New isolated mammalian opioid receptor protein used for the development
XX of agents with pharmacological uses related to opioid receptors.
XX
XX Example 2; Fig 2; 26pp; English.
XX
XX The invention relates to a novel mammalian methadone-specific opioid
XX receptor (AM90493) especially isolated from Norway rats (Rattus
XX norvegicus). The rat coding sequence (AA931047) was isolated from
XX a cDNA library with the primer AA931048-291049. This sequence
XX showed a 97% identity with the human mu opiate receptor. The
XX novel receptor protein can be used for the development of agents with
XX pharmacological uses related to the receptors e.g. psychotropic drugs.
XX
XX Sequence 398 AA;
SQ
Query Match 98.3%; Score 2075; DB 21; Length 398;
Best Local Similarity 98.7%; Pred. No. 1e-219;
Matches 393; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
OY 1 MDSTGPTGNTSCDPLAQAACSPAPGSMNLNLSHYDQNSDPCCLNRTGLGNSLCPQT 60
DB 1 MDSTGPTGNTSCDPLAQAACSPAPGSMNLNLSHYDQNSDPCCLNRTGLGNSLCPQT 60
OY 61 GSPSWTAITIALYSIVCVGLGPNFLVMYVIVRYTOMKTATNIYIFNLADALATST 120
DB 61 GSPSWTAITIALYSIVCVGLGPNFLVMYVIVRYTOMKTATNIYIFNLADALATST 120
OY 121 LPFQSVNYLGMTWPPGTLCKIVISIDYNNMPTSIPFLCTNSVDRIYAVCHPVKALDPT 180
DB 121 LPFQSVNYLGMTWPPGTLCKIVISIDYNNMPTSIPFLCTNSVDRIYAVCHPVKALDPT 180
OY 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPYWNELKICVPFIPA 240
DB 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPYWNELKICVPFIPA 240
OY 241 PIMPLIITVCYGLMILKLSVRLSGSKORNLRIETRMVLVVAVFVCMTPHIYV 300
DB 241 PIMPLIITVCYGLMILKLSVRLSGSKORNLRIETRMVLVVAVFVCMTPHIYV 300
OY 301 IIKALITIPETTPQVSMHFCIALGYTNSCLNPVLYAFDENPKCPFBFCIPTSSTIEQ 360
DB 301 IIKALITIPETTPQVSMHFCIALGYTNSCLNPVLYAFDENPKCPFBFCIPTSSTIEQ 360
OY 361 QNSTVRONTREHSTANTVORTNHOLENLEASTAPLP 398
DB 361 QNSTVRONTREHSTANTVORTNHOLENLEASTAPLP 398
RESULT 5
AAU96238
XX
XX AAU96238 standard; Protein; 398 AA.
XX
XX AAU96238;
XX
XX 15-JUL-2002 (first entry)
XX
XX Rat mu opioid receptor.
XX
XX Rat; Class I G protein-coupled; receptor; mu opioid receptor;

```


Db 241 FIMPLIITVCGMLHLRLKSVMLSGSKORNLRIITRMVLVVAIVCMPIHIIV 300
 Qy 301 IIKALITIPPTQVSMHPCIALGYNSCLNPLVYAPLDENPCRCPCIPSTSTIQ 360
 Db 301 IIKALITIPPTQVSMHPCIALGYNSCLNPLVYAPLDENPCRCPCIPSTSTIQ 360
 Qy 361 QNSTVRQNTREHPSTANTVDRTHQ 387
 Db 361 QNSTVRQNTREHPSTANTVDRTHQ 387

RESULT 10

AY68888
 ID AAY68888 standard; Protein; 444 AA.

AC AAY68888;

XX 16-MAY-2000 (first entry)

XX A murine mu-opioid receptor splice variant MOR-1P.

XX Mu-opioid receptor; MOR-1; splice variant; morphine analgesia;

XX opioid-mediated ingestive response; opioid activity; analgesic;

XX gastrointestinal motility; respiration; immune system;

XX endocrine system; autonomous nervous system; peristalsis regulator;

XX body weight; neuroendocrine disorder; MOR-1P.

XX Mus sp.

OS WO200004046-A2.

PN 27-JAN-2000.

XX 15-JUL-1999; 99WO-US15974.

XX 16-JUL-1998; 98US-0092980.

XX (SLOK) SLOAN KETTERING INST CANCER RES.

XX Pasternak G, Pan Y;

XX WPI; 2000-182402/16.

XX N-PSDB; AA260734.

XX New splice variants of the mu-opioid receptor: useful in screening for

XX selective analgesics and for regulating morphine analgesia or body

XX weight.

XX Claim 11; Fig 3D; 83pp; English.

XX The present sequence represents a murine mu-opioid receptor (MOR-1)

XX splice variant MOR-1P. The specification describes 11 new exons for

XX the MOR-1 gene, which combine to yield 15 novel splice variants of

XX the MOR-1 gene. These splice variants are potential targets for

XX modulating morphine analgesia and opioid-mediated ingestive responses.

XX Such compounds may be used to screen compounds for opioid activity.

XX The compounds may be used to screen compounds for analgesic activity.

XX or autonomous nervous system; e.g., regulators of peristalsis

XX or autonomous nervous system; e.g., regulators of peristalsis

XX Antagonists, agonists and ligands of MOR-1, as well as DNA vectors

XX expressing MOR-1-encoding nucleic acids, or sequences antisense to

XX MOR-1 nucleic acids, are used to regulate morphine analgesia and body

XX weight. The level of MOR-1 or tissue distribution of MOR-1 can be

XX measured to diagnose MOR-1 related pharmacological abnormalities or

XX neuroendocrine disorders, particularly inherited disorders. Transgenic

XX animals with extra copies of the MOR-1 gene, or with endogenous alleles

XX deleted, are used to study loss or gain of function phenotypes.

XX Sequence 444 AA;

XX Query Match 94.9%; Score 2004; DB 21; Length 444;

XX Best Local Similarity 92.5%; Pred. No. 8.1e-212;

XX

Matches 381; Conservative 4; Mismatches 9; Indels 18; Gaps 1;
 Qy 1 MSSSTGTGNTSDSCDPLAAGSCSPAGSMHSHVGNQSDPCGLNRTGLGNDSLCPOT 60
 Db 1 MSSSAGCGNIDSCDPLAPASCSPAGSMHSHVGNQSDPCGPNRTGLGSHSLCPOT 60
 Qy 61 GSPSMVTAITMALYSIVCVGLPGLPMTVIVRYTGTATNIYIPNLADALATST 120
 Db 61 GSPSMVTAITMALYSIVCVGLPGLPMTVIVRYTGTATNIYIPNLADALATST 120
 Qy 121 LPPQSVNLMGTWPCGTLCKIVISIDYNNMPTSIPTLCTNSVRYIANCPKALDPT 180
 Db 121 LPPQSVNLMGTWPCGTLCKIVISIDYNNMPTSIPTLCTNSVRYIANCPKALDPT 180
 Qy 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPMTWENLLKICVFIPA 240
 Db 181 PRNAKIVNVCNMLSSAIGLPVPMATTKYRQGSIDCTLTFSHPMTWENLLKICVFIPA 240
 Qy 241 FIMPLIITVCGMLHLRLKSVMLSGSKORNLRIITRMVLVVAIVCMPIHIIV 300
 Db 241 FIMPLIITVCGMLHLRLKSVMLSGSKORNLRIITRMVLVVAIVCMPIHIIV 300
 Qy 301 IIKALITIPPTQVSMHPCIALGYNSCLNPLVYAPLDENPCRCPCIPSTSTIQ 360
 Db 301 IIKALITIPPTQVSMHPCIALGYNSCLNPLVYAPLDENPCRCPCIPSTSTIQ 360
 Qy 361 QNSTVRQNTREHPSTANTVDRTHQ-----LENEAST 394
 Db 361 QNSTVRQNTREHPSTANTVDRTHQPCACVPCANRQGTAKASDLLDLEET 412

RESULT 11

AY68888

ID AAY68888 standard; Protein; 391 AA.

AC AAY68888;

XX 16-MAY-2000 (first entry)

XX A murine mu-opioid receptor splice variant MOR-1B I.

XX Mu-opioid receptor; MOR-1; splice variant; morphine analgesia;

XX opioid-mediated ingestive response; opioid activity; analgesic;

XX gastrointestinal motility; respiration; immune system;

XX endocrine system; autonomous nervous system; peristalsis regulator;

XX body weight; neuroendocrine disorder; MOR-1B I.

XX Mus sp.

OS WO200004046-A2.

PN 27-JAN-2000.

XX 15-JUL-1999; 99WO-US15974.

XX 16-JUL-1998; 98US-0092980.

XX (SLOK) SLOAN KETTERING INST CANCER RES.

XX Pasternak G, Pan Y;

XX WPI; 2000-182402/16.

XX N-PSDB; AA260737.

XX New splice variants of the mu-opioid receptor, useful in screening for

XX selective analgesics and for regulating morphine analgesia or body

XX weight.

XX Claim 19; Fig 3C; 83pp; English.

XX The present sequence represents a murine mu-opioid receptor (MOR-1)

XX splice variant MOR-1B. The specification describes 11 new exons for

XX the MOR-1 gene, which combine to yield 15 novel splice variants of

AAV6887;
 16-MAY-2000 (first entry)
 A murine mu-opioid receptor splice variant MOR-1B II.
 Mu-opioid receptor; MOR-1; splice variant; morphine analgesia;
 opiod-mediated ingestive response; opiod activity; analgesic;
 gastrointestinal motility; respiration; immune system;
 endocrine system; autonomous nervous system; peristalsis regulator;
 body weight; neuroendocrine disorder; MOR-1B II.
 Mus sp.
 Key Location/Qualifiers
 Misc-difference 199 .
 /note= "encoded by COT"
 WO200004046-A2.
 27-JAN-2000.
 15-JUL-1999; 99MO-US15974.
 16-JUL-1998; 98US-0092980.
 (SLOK) SLOAN KETTERING INST CANCER RES.
 Pasternak G, Pan Y;
 WPI; 2000-182402/16.
 N-PSDB; AAZ60726.
 New splice variants of the mu-opioid receptor: useful in screening for
 selective analgesics and for regulating morphine analgesia of body
 weight -
 Claim 17; Fig 3C; 83pp; English.
 The present sequence represents a murine mu-opioid receptor (MOR-1)
 splice variant MOR-1B II. The specification describes 11 new exons for
 the MOR-1 gene, which combine to yield 15 novel splice variants of
 the MOR-1 gene. These splice variants are potential targets for
 modulating morphine analgesia and opiod-mediated ingestive responses.
 The MOR-1 polypeptide is used to screen compounds for opiod activity.
 Such compounds are potential analgesics or more generally agents that
 affect gastrointestinal motility, respiration or the immune, endocrine
 or autonomous nervous systems, e.g. regulators of peristalsis
 or agonists, agonists and ligands of MOR-1, as well as DNA vectors
 expressing MOR-1-encoding nucleic acids, or sequences antisense to
 MOR-1 nucleic acids, are used to regulate morphine analgesia and body
 weight. The level of MOR-1 or tissue distribution of MOR-1 can be
 measured to diagnose MOR-1 related pharmacological abnormalities or
 neuroendocrine disorders, particularly inherited disorders. Transgenic
 animals with extra copies of the MOR-1 gene, or with endogenous alleles
 deleted, are used to study loss or gain of function phenotypes.

Query Match 94.9%; Score 2003; DB 21; Length 409;
 Best Local Similarity 97.4%; Pred. No. 9.3e-212;
 Matches 376; Conservative 3; Mismatches 7; Indels 0; Gaps 0;
 1 MDSGTGPTSDCSDDPLAASCPAGSWMNLSHVGNQSDPGLNRTGLGQNSLCPQT 60
 1 MDSBAGPNTSDCSDDPLAASCPAGSWMNLSHVGNQSDPGLNRTGLGQNSLCPQT 60
 61 GSPBMTATITMAYLSVCVGLPGNPLVMYVIRYTKMTATNIIYIPNALADALATST 120
 61 GSPBMTATITMAYLSVCVGLPGNPLVMYVIRYTKMTATNIIYIPNALADALATST 120
 121 LPQSVNYLGMTPFCNLCKIVISIDYNNMPTSIFTLCTNSVDRIYAVCHPVKALDPT 180

DB 121 LPQSVNYLGMTPFCNLCKIVISIDYNNMPTSIFTLCTNSVDRIYAVCHPVKALDPT 180
 QY 181 PRNAIVNVCNMLSSAIGLPNMPMATTIYQSGSIDCTLTFSPHPTMYNLLKICVPIFA 240
 DB 181 PRNAIVNVCNMLSSAIGLPNMPMATTIYQSGSIDCTLTFSPHPTMYNLLKICVPIFA 240
 QY 241 FIMPILITVCVGLMILKASVMUSGSKORNLRIITRMVLVYVAVIYVCMTPPIHIYV 300
 DB 241 FIMPILITVCVGLMILKASVMUSGSKORNLRIITRMVLVYVAVIYVCMTPPIHIYV 300
 QY 301 IIKALITIPERTPTQVWHCFALGYTNSCLNPLVYAFJDNPFPCPSPFCIPTSSTIEQ 360
 DB 301 IIKALITIPERTPTQVWHCFALGYTNSCLNPLVYAFJDNPFPCPSPFCIPTSSTIEQ 360
 QY 361 QNSTRVQNTREHSTANTVDRTHQ 386
 DB 361 QNSARIQNTREHSTANTVDRTHQ 386
 RESULT 14
 AA168877;
 AD AAV68877 standard; Protein; 438 AA.
 AC AAV68877;
 XX
 DT 16-MAY-2000 (first entry)
 XX
 DE A murine mu-opioid receptor splice variant MOR-1C.
 XX
 KW Mu-opioid receptor; MOR-1; splice variant; morphine analgesia;
 KW opiod-mediated ingestive response; opiod activity; analgesic;
 KW gastrointestinal motility; respiration; immune system;
 KW endocrine system; autonomous nervous system; peristalsis regulator;
 KW body weight; neuroendocrine disorder; MOR-1C.
 XX
 OS Mus sp.
 XX
 PN WO200004046-A2.
 XX
 PD 27-JAN-2000.
 XX
 PP 15-JUL-1999; 99MO-US15974.
 XX
 PR 16-JUL-1998; 98US-0092980.
 XX
 XX (SLOK) SLOAN KETTERING INST CANCER RES.
 XX
 PI Pasternak G, Pan Y;
 XX
 DR WPI; 2000-182402/16.
 DR N-PSDB; AAZ60726.
 XX
 PT New splice variants of the mu-opioid receptor: useful in screening for
 selective analgesics and for regulating morphine analgesia of body
 weight -
 Claim 5; Fig 3A; 83pp; English.
 The present sequence represents a murine mu-opioid receptor (MOR-1)
 splice variant MOR-1C. The specification describes 11 new exons for
 the MOR-1 gene, which combine to yield 15 novel splice variants of
 the MOR-1 gene. These splice variants are potential targets for
 modulating morphine analgesia and opiod-mediated ingestive responses.
 The MOR-1 polypeptide is used to screen compounds for opiod activity.
 Such compounds are potential analgesics or more generally agents that
 affect gastrointestinal motility, respiration or the immune, endocrine
 or autonomous nervous systems, e.g. regulators of peristalsis
 or agonists, agonists and ligands of MOR-1, as well as DNA vectors
 expressing MOR-1-encoding nucleic acids, or sequences antisense to
 MOR-1 nucleic acids, are used to regulate morphine analgesia and body
 weight. The level of MOR-1 or tissue distribution of MOR-1 can be
 measured to diagnose MOR-1 related pharmacological abnormalities or
 neuroendocrine disorders, particularly inherited disorders. Transgenic
 animals with extra copies of the MOR-1 gene, or with endogenous alleles
 deleted, are used to study loss or gain of function phenotypes.

GenCore version 5.1.4.P5.4578
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OM protein - protein search, using sw model

Run on: March 25, 2003, 09:55:58 ; Search time 23 seconds
(without alignments)
1683.343 Million cell updates/sec

Title: US-10-039-645-1

Perfect score: 2111

Sequence: 1 MS88TGPNTSCSDPLAC.....TVDRTNQLNLEASTAPLP 398

Scoring table: BLOSUM62

Gappop 10.0, Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: PIR 73.0

1: PIR1.0

2: PIR2.0

3: PIR3.0

4: PIR4.0

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	2111	100.0	398	2	mu opiod receptor
2	2101	99.5	398	2	mu opiod receptor
3	1993	97.7	398	2	mu opiod receptor
4	1983	97.7	398	2	mu opiod receptor
5	1938	91.7	392	2	opiod receptor mu
6	1171.5	55.5	373	2	delta opiod recep
7	1147.5	54.4	372	2	delta opiod recep
8	1146.5	54.3	372	2	kappa opiod recep
9	1141.5	54.1	380	2	kappa opiod recep
10	1139.5	54.0	372	2	delta opiod recep
11	1133	53.7	380	2	kappa opiod recep
12	1129	53.5	380	2	kappa opiod recep
13	1126	53.3	380	2	kappa opiod recep
14	1117	52.9	380	2	kappa opiod recep
15	1077	46.3	376	2	G protein-coupled
16	967.2	45.3	376	2	opiod recep
17	973	46.1	367	2	opiod recep
18	973	46.1	367	2	opiod recep
19	693	32.6	391	2	opiod recep
20	691	32.7	391	2	opiod recep
21	689.5	32.7	391	2	opiod recep
22	683	32.4	369	2	opiod recep
23	678	32.1	369	2	opiod recep
24	670	31.7	384	2	opiod recep
25	669	31.7	369	2	opiod recep
26	662.5	31.4	366	2	opiod recep
27	662.5	31.4	366	2	opiod recep
28	659.5	31.2	388	2	opiod recep
29	659	31.2	369	2	opiod recep

30 637 30.2 363 2 I57940 somatostatin recep
31 630 29.8 363 2 I57955 somatostatin recep
32 625.5 29.6 364 2 JN0763 somatostatin recep
33 592.5 28.1 333 2 I38974 G protein-coupled
34 590 27.9 418 2 A46226 somatostatin recep
35 587.5 27.8 428 2 A44021 somatostatin recep
36 584 27.7 428 2 S30508 probable G protein
37 559 26.5 328 2 I38973 G protein-coupled
38 490.6 23.5 374 2 JCT409 galanin receptor
39 488 23.2 374 2 JCT409 galanin receptor
40 458 21.7 387 2 JCT5849 galanin receptor 2
41 452.5 21.4 422 2 JCT080 melanin-concentrat
42 449 21.3 349 2 I59316 galanin receptor 1
43 448.5 21.2 357 2 JCT319 probable allatosta
44 445 21.1 383 2 S55594 G protein-coupled
45 430 20.4 359 2 I51372 angiotensin II rec

RESULT 1
I56517
mu opiod receptor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 26-Jul-1996 #sequence revision 26-Jul-1996 #text change 20-Jun-2000
C:Accession: I56517; I57951; A9680; I52314; 834593; A48799; I58154
R:Bunson, J.R.; Zhang, G.; Bouvier, C.; Saes, C.; Ronnekleiv, O.K.; Kelly, M.J.; Grand
J. Neurochem. 64, 14-24, 1995
A:Title: Characterization and distribution of a cloned rat mu-opioid receptor.
A:Reference number: I56517; MUID:95096825; PMID:7798908
A:Accession: I56517
A:Status: preliminary
A:Structure type: mRNA
A:Residues: 1-398 <RES>
A:Cross-references: EMBL:U02083; NID:9403573; PIDN:AAA70049.1; PID:9403574
R:Chen, Y.; Mestek, A.; Liu, J.; Hurley, J.A.; Yu, L.
Mol. Pharmacol. 44, 8-12, 1993
A:Title: Molecular cloning and functional expression of a mu-opioid receptor from rat
A:Reference number: I57951; MUID:93341493; PMID:8393525
A:Accession: I57951
A:Status: preliminary
A:Structure type: mRNA
A:Residues: 1-398 <RES>
A:Cross-references: GB:I13069; NID:9348250; PIDN:AAA1630.1; PID:9348251
R:Spiller, C.M.; Holmes, J.D.; Wang, J.B.; Johnson, B.; Corbett, M.; Luthin, D.R.; Uhl,
A. J. Biol. Chem. 269, 2644-2651, 1994
A:Title: Purification and characterization of the amino acid sequence of a mu opiod receptor from rat
A:Reference number: A9680; MUID:94075333; PMID:8253772
A:Accession: A9680
A:Status: preliminary
A:Structure type: protein
A:Residues: 272-491 <EPP>
A:Experimental source: brain membranes
A:Note: sequence extracted from NCBI backbone (NCBIP:140841)
R:Seid, M.; Roy, S.; Ramakrishnan, S.; Elde, R.; Loh, H.H.
Biochem. Biophys. Res. Commun. 209, 563-574, 1995
A:Title: Complementary DNA cloning of a mu-opioid receptor from rat peritoneal macroph
A:Reference number: I52314; MUID:93231654; PMID:7733926
A:Accession: I52314
A:Status: preliminary
A:Structure type: mRNA
A:Residues: 101-340 <SED>
A:Cross-references: GB:877863; NID:9998526
A:Experimental source: Sprague Dawley, peritoneal macrophages
R:Fukuda, K.; Kato, S.; Mori, K.; Nishii, M.; Takeshima, H.
FEBS Lett. 327, 311-314, 1993
A:Title: Primary structures and expression from cDNAs of rat opiod receptor delta- an
A:Reference number: 834592; MUID:93331652; PMID:8394245
A:Accession: 834592
A:Status: preliminary
A:Residues: 1-244, 'V' 246-398 <PUK>
A:Cross-references: GB:D16349; NID:931866; PIDN:BA03852.1; PID:931867

[illegible]

Query Match 97.7%; Score 3063; DB 2; Length 398;
Best Local Similarity 97.5%; Pred. No. 4,36-166;
Matches 388; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

Qy 1 MHSRGTGQNTSDSCDPLAQAQSPAPGSLNLSHVQDQSDPGLNLTGLGNDSLCPOT 60
Db 1 MHSRGTGQNTSDSCDPLAQAQSPAPGSLNLSHVQDQSDPGLNLTGLGNDSLCPOT 60

Qy 61 GSPSMTATLIMALYSIVCVGLPQNFVIVVIRVTKNTATNIYIPNLADALATST 120
Db 61 GSPSMTATLIMALYSIVCVGLPQNFVIVVIRVTKNTATNIYIPNLADALATST 120

Qy 121 LPQSVNVLKMTGPPCTTLCCKIVISIDYNNMFTSIPFLCTNSVDRIYAVCHPVKALDPT 180
Db 121 LPQSVNVLKMTGPPCTTLCCKIVISIDYNNMFTSIPFLCTNSVDRIYAVCHPVKALDPT 180

Qy 181 PRNAXIVNWMISLSSAIGLPMVPMATTKYRQSGIDCTLTFSHPMTWENLLKICVPIPA 240
Db 181 PRNAXIVNWMISLSSAIGLPMVPMATTKYRQSGIDCTLTFSHPMTWENLLKICVPIPA 240

Qy 241 FIMPLIITVCGLMILRLKLSVRLSGSKEDRNLRIRTRMVLVAVVIVCTPIHI 300
Db 241 FIMPLIITVCGLMILRLKLSVRLSGSKEDRNLRIRTRMVLVAVVIVCTPIHI 300

Qy 301 IIKALITIPETTPQTVSMHFCALGYTNSCLNPLVYAPLDENPKRCFPCPTSTSTI 360
Db 301 IIKALITIPETTPQTVSMHFCALGYTNSCLNPLVYAPLDENPKRCFPCPTSTSTI 360

Qy 361 QNSRTRVQNTREHPSTANTVORTNHNLEASTAPLP 398
Db 361 QNSRTRVQNTREHPSTANTVORTNHNLEASTAPLP 398

RESULT 4
156553
A:Gene: opiate receptor - human
W:Alternate names: MOR1 protein; opiate receptor mu
C:Species: Homo sapiens (man)
C:Date: 02-Jul-1996 #sequence revision 02-Jul-1996 #text_change 19-May-2000
C:Accession: 156553; A38991; 841075; 851215
R:Meete, A.; Hurley, J.H.; Bye, L.S.; Campbell, A.D.; Chen, Y.; Tian, M.; Liu, J.; Schu
J. Neurosci. 15, 2396-2406, 1995
A:Title: The human mu opiate receptor: modulation of functional desensitization by calci
A:Reference number: 156553; MUID:95198115; PMID:7891175
A:Accession: 156553
A:Status: nucleic acid sequence not shown; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Cross-references: GB:L29301; NID:9459831; PIDN:AAAT3958.1; PID:9459832
R:Wang, J.B.; Johnson, P.B.; Petralico, A.M.; Hawkins, A.L.; Griffin, C.A.; Uhl, G.R.
submitted to GenBank, August 1994
A:Reference number: A38991
A:Accession: A38991
A:Status: translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-50; 'N'. 52-233; 'V'. 235-400 <MAN>
A:Cross-references: GB:L25119; NID:9452072; PIDN:AAAT3080.1; PID:9452073
R:Wang, J.B.; Johnson, P.B.; Petralico, A.M.; Hawkins, A.L.; Griffin, C.A.; Uhl, G.R.
FEBS Lett. 338, 217-222, 1994
A:Title: Human mu opiate receptor. cDNA and genomic clones, pharmacologic characterizat
A:Reference number: 841075; MUID:94139928; PMID:7905839
A:Accession: 841075
A:Status: nucleic acid sequence not shown
A:Molecule type: mRNA
A:Residues: 1-50; 'N'. 52-400 <MAN>
R:Bar, L.A.; Mansson, E.; Yang, D.
FEBS Lett. 354, 213-216, 1994
A:Title: Expression of two variants of the human mu opiate receptor mRNA in SK-N-SH cell
A:Reference number: 851215; MUID:95046336; PMID:7957926
A:Accession: 851215
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 387-392 <BAR>

C:Genetics:
A:Gene: GDB: OPRM1
A:Cross-references: GDB:137216; OMIM:600018
A:Map position: 6q24-6q25
C:Superfamily: vertebrate rhodopsin
C:Keywords: G protein-coupled receptor; glycoprotein; transmembrane protein
P:71-96/Domain: transmembrane #status predicted <TM1>
P:107-132/Domain: transmembrane #status predicted <TM2>
P:148-165/Domain: transmembrane #status predicted <TM3>
P:178-203/Domain: transmembrane #status predicted <TM4>
P:236-257/Domain: transmembrane #status predicted <TM5>
P:283-304/Domain: transmembrane #status predicted <TM6>
P:323-342/Domain: transmembrane #status predicted <TM7>
P:312,33,40,48/Binding site: carbohydrate (Aen) (covalent) #status predicted
P:9,12,33,40,48/Binding site: carbohydrate (Aen) (covalent) #status predicted

Query Match 94.7%; Score 1999; DB 2; Length 400;
Best Local Similarity 93.8%; Pred. No. 1,1e-160;
Matches 375; Conservative 11; Mismatches 12; Indels 2; Gaps 1;

Qy 1 MHSRGTGQNTSDSCDPLAQAQSPAPGSLNLSHVQDQSDPGLNLTGLGNDSLCP 58
Db 1 MHSRGTGQNTSDSCDPLAQAQSPAPGSLNLSHVQDQSDPGLNLTGLGNDSLCP 60

Qy 59 OTGSPSMTATLIMALYSIVCVGLPQNFVIVVIRVTKNTATNIYIPNLADALAT 118
Db 61 PTGSPSMTATLIMALYSIVCVGLPQNFVIVVIRVTKNTATNIYIPNLADALAT 120

Qy 119 STLPQSVNVLKMTGPPCTTLCCKIVISIDYNNMFTSIPFLCTNSVDRIYAVCHPVKALD 178
Db 121 STLPQSVNVLKMTGPPCTTLCCKIVISIDYNNMFTSIPFLCTNSVDRIYAVCHPVKALD 180

Qy 179 RFPNAXIVNWMISLSSAIGLPMVPMATTKYRQSGIDCTLTFSHPMTWENLLKICVPI 238
Db 181 RFPNAXIVNWMISLSSAIGLPMVPMATTKYRQSGIDCTLTFSHPMTWENLLKICVPI 240

Qy 239 PAPTMLIITVCGLMILRLKLSVRLSGSKEDRNLRIRTRMVLVAVVIVCTPIHI 298
Db 241 PAPTMLIITVCGLMILRLKLSVRLSGSKEDRNLRIRTRMVLVAVVIVCTPIHI 300

Qy 299 VYIKALITIPETTPQTVSMHFCALGYTNSCLNPLVYAPLDENPKRCFPCPTSTSTI 358
Db 301 VYIKALITIPETTPQTVSMHFCALGYTNSCLNPLVYAPLDENPKRCFPCPTSTSTI 360

Qy 359 EQNSRTRVQNTREHPSTANTVORTNHNLEASTAPLP 398
Db 361 EQNSRTRVQNTREHPSTANTVORTNHNLEASTAPLP 400

RESULT 5
S65693
A:Gene: opiate receptor mu variant MOR1A - human
C:Species: Homo sapiens (man)
C:Date: 12-Jul-1996 #sequence revision 26-Jul-1996 #text_change 05-Nov-1999
C:Accession: S65693; S51216
R:Bar, L.A.; Mansson, E.; Yang, D.
submitted to the EMBL Data Library, July 1994
A:Description: Expression of two variants of the human mu opiate receptor mRNA in SK-
A:Reference number: S65693
A:Accession: S65693
A:Molecule type: mRNA
A:Residues: 1-392 <BAR>
A:Cross-references: EMBL:U12569; NID:9607911; PIDN:AA860354.1; PID:9607912
R:Bar, L.A.; Mansson, E.; Yang, D.
FEBS Lett. 354, 213-216, 1994
A:Title: Expression of two variants of the human mu opiate receptor mRNA in SK-N-SH c
A:Reference number: 851215; MUID:95046336; PMID:7957926
A:Accession: 851216
A:Molecule type: mRNA
A:Residues: 387-392 <BAR>
C:Superfamily: vertebrate rhodopsin

Query Match 91.7%; Score 1936; DB 2; Length 392;
Best Local Similarity 92.3%; Pred. No. 2,1e-155;

[illegible]

N/Altemate names; dynorphin receptor

C/Species: Cavia porcellus (guinea pig)

C/Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 24-Nov-1999

C/Accession: A95259

R/Xref: G.C., Meng, P.J., Mansour, R.C.; Hoverston, M.T.; Goldstein, A.; Mat
Proc. Natl. Acad. Sci. U.S.A. 91, 3779-3783, 1994

A/Title: Primary structure and functional expression of a guinea pig kappa opioid (dy

A/Reference number: A55259; NID:94224825; PMID:8170987

A/Accession: A55259

A/Molecule type: mRNA

A/Molecule type: mRNA

A/Residues: 1-380 <XIS>

A/Cross-references: GB:U04092; NID:G476106; PIDN:AAA67171.1; PID:G476107

C/Superfamily: vertebrate rhodopsin

C/Keywords: transmembrane protein

Query Match 54.1% Score 1141.5; DB 2; Length 380;
Best local similarity 10.1%; Positives 66-89 matches 75; Indels 19; Gaps 7;
Matches 226; Conservative 55; Mismatches 75; Indels 19; Gaps 7;

QY 16 PLQAQSCSPARGSL-NLSHVDGNQSDPGLNRITGLG--NDSLCPTGGSPSMVTAITIM 72

DB 16 PAENACLLPGMAGLPMWAPDGN-----GSAGPDQEQLPAHSIPAVIIT-- 63

QY 73 ALYSIVCVGLFGLFMVTVIRYTKKATNIYIFNLADALATSTLPQSVMYLGT 132

DB 73 ALYSIVCVGLFGLFMVTVIRYTKKATNIYIFNLADALATSTLPQSVMYLGT 132

QY 64 AVTSVPFGVLGVNSLVFIIRTTHKTATNIYIFNLADALATSTLPQSVMYLGT 123

DB 64 AVTSVPFGVLGVNSLVFIIRTTHKTATNIYIFNLADALATSTLPQSVMYLGT 123

QY 133 WPGTILCKVISDYNNFTSPTLTCTMGVSRYIANCHPVKALDPRTNKNVNCWM 192

DB 133 WPGTILCKVISDYNNFTSPTLTCTMGVSRYIANCHPVKALDPRTNKNVNCWM 192

QY 124 WPGDLVKLVISDYNNFTSIPLTWASDVRIYVACHPVKALDPRTPLAKAIIICIW 183

DB 124 WPGDLVKLVISDYNNFTSIPLTWASDVRIYVACHPVKALDPRTPLAKAIIICIW 183

QY 193 ILSGAIGLVPMPATTKYRQ--GSIDCTLTFSHPTM-WYNLLKICVFIPAFIMLIIT 249

DB 193 ILSGAIGLVPMPATTKYRQ--GSIDCTLTFSHPTM-WYNLLKICVFIPAFIMLIIT 249

QY 184 LLSSGVGI8A1LGCTKVRAOVD1ECSLGFODDDYSMDMLPMKICVPFAVIPVII 243

DB 184 LLSSGVGI8A1LGCTKVRAOVD1ECSLGFODDDYSMDMLPMKICVPFAVIPVII 243

QY 250 VCYGMILRLKSVRMVSGSKEDRNLRITRMVLVVAVPIVCVTIHVIYIKALITP 309

DB 250 VCYGMILRLKSVRMVSGSKEDRNLRITRMVLVVAVPIVCVTIHVIYIKALITP 309

QY 244 VCYGMILRLKSVRMVSGSKEDRNLRITRMVLVVAVPIVCVTIHVIYIKALITP 303

DB 244 VCYGMILRLKSVRMVSGSKEDRNLRITRMVLVVAVPIVCVTIHVIYIKALITP 303

QY 310 ETTFTVSHPCIALGYTHNSCLNPVLYAFIDENPKRCFCIPETSTIEQDSNTVRQN 369

DB 310 ETTFTVSHPCIALGYTHNSCLNPVLYAFIDENPKRCFCIPETSTIEQDSNTVRQN 369

QY 304 HSTAALS9YFFICALGYTNSSLNPLVAFIDENPKRCFRDFCFPIORMERQSTRVR-N 362

DB 304 HSTAALS9YFFICALGYTNSSLNPLVAFIDENPKRCFRDFCFPIORMERQSTRVR-N 362

QY 370 TRHPSTANTVORTN 384

DB 370 TRHPSTANTVORTN 384

QY 363 TVGDPAHYRNVQGN 377

DB 363 TVGDPAHYRNVQGN 377

RESULT 10

834592

delta opioid receptor - rat

C/Species: Rattus norvegicus (Norway rat)

C/Date: 10-Dec-1993 #sequence_revision 10-Nov-1995 #text_change 20-Jun-2000

C/Accession: A39592

R/Xref: R.Pukuda, K.; Mori, S.; Morii, K.; Nishii, M.; Takeshima, H.
FEBS Lett. 327, 311-314, 1993

A/Title: Primary structure and expression from cDNA of rat opioid receptor

A/Reference number: 834592; NID:93551652; PMID:8394245

A/Accession: A39592

A/Molecule type: mRNA

A/Molecule type: mRNA

A/Residues: 1-372 <FKU>

A/Cross-references: GB:D16349; NID:G931864; PIDN:BAAO3951.1; PID:G931865

R/Abdom, M.B.

J. Neurosci. Res. 27, 714-719, 1994

A/Title: Molecular cloning and expression of a rat delta opioid receptor from rat bra

A/Reference number: 156571

A/Accession: A39592

A/Supplementary: translated from GB/EMBL/DBJ

A/Molecule type: mRNA

A/Residues: 1-372 <RES>

A/Cross-references: EMBL/U00475; NID:G403488; PIDN:AAAA19939.1; PID:G514211

G/Genetics:

20-June-2000

A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-380 <CHE>
A/Cross-references: GB:L22001; NID:9409236; PID:AAA41495.1; PID:9409237
R:Minami, M.; Toyota, T.; Katano, Y.; Nakamura, K.; Nakamura, S.; Onogi, T.; Kaneko, S.; Sak
FBS Lett. 329, 291-295, 1993
A/Title: Cloning and expression of a cDNA for the rat kappa-opioid receptor.
A/Reference number: 936102; MUID:93374033; PMID:8103466
A/Accession: J036102
A/Residues: 1-41, 1', 41-380 <MIN>
A/Cross-references: GB:O16829; NID:9404115; PID:BA04109.1; PID:9404116
R:Li, B.; Zhu, J.; Chen, C.; Chen, Y.M.; Deriel, J.K.; Aehby, B.; Liu-Chen, L.Y.
Biochem. J. 295, 629-633, 1993
A/Title: Molecular cloning and expression of a rat kappa opioid receptor.
A/Reference number: 939015; MUID:9459009; PMID:8240268
A/Accession: J039015
A/Molecule type: mRNA
A/Residues: 1-344, Y', 346-380 <LIS>
A/Cross-references: GB:L22536; NID:9425188; PID:AAA41496.1; PID:9425189
R:Wang, J.; Ake, S.; U.S.A. 90, 9854-9858, 1993
A/Title: Cloning and pharmacological characterization of a rat kappa opioid receptor.
A/Reference number: A48789; MUID:94052210; PMID:8234341
A/Accession: A48789
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-380 <RES>
A/Cross-references: EMBL:U00442; NID:9403486; PID:AAA18261.1; PID:9403487
C/Superfamily: vertebrate rhodopsin
C/Keywords: G protein-coupled receptor; transmembrane protein

Query Match 53.5%; Score 1129; DB 2; Length 380;
Best Local Similarity 55.4%; Pred. No. 3.2e-87;
Matches 228; Conservative 56; Mismatches 76; Indels 24; Gaps 9;

Qy 7 PCNTSCDPLAQCSPAPGSM-LNLSHYDQNSDPCGLNRTGLGND-SLCPTGSP 63
Db 12 PQPT-----CAPBACLLPNSSSPFPMNAESDSNGS-----VGSDDQOLLEPAH18P 56

Qy 64 SMVTAITMALYSICVVGFLGFLNFMVYVIRTKMTATNIYIPNALADALATSLTP 123
Db 57 AIPWIT--AYTSVPVVGVLGNSLVMFVIRTKMTATNIYIPNALADALATSLTP 114

Qy 124 QSVNYLMTGTPPTGLCKIVISIDYNNMTSIFPLCTMSVDYVAVCHPVKALDPTPN 183
Db 115 QSVNYLMTGTPPTGLCKIVISIDYNNMTSIFPLCTMSVDYVAVCHPVKALDPTPL 174

Qy 184 AXVNVGMWLSAIGLPMFMATTKYRQ--GSIDCLTFSHPM-YWENLLKICVPFPA 240
Db 175 AXINICVLLASVGSISAVLGGTKYREDVDVIECSLQPPDEYSWMDLPMKICVPFA 234

Qy 241 FIMPLIITVCYGLMILKLSVRMLSGSKERNLRITRMVAVVAVVTCVPIHYV 300
Db 235 FVLPVLIIVCTTILMLKLSVRLLSGSKERNLRITKLVVAVVAVVTCVPIHPI 294

Qy 301 IKALITPETPTQVSHFCIALQTNCLNVLVAVLDENFKCEPCPTSTSTEQ 360
Db 295 LVKAGTSHSTAVLSSTFYCALQTNCLNVLVAVLDENFKCEPCPTSTSTEQ 354

Qy 361 QNSTRVONTREHPSTANTYDRTN 384
Db 355 QSTNRVA-NTVQDPASHMDVGGNN 377

RESULT 13
A48227
kappa opioid receptor 1 - mouse
C/Species: Mus musculus (house mouse)
C/Date: 26-May-1994 #sequence_revision 26-May-1994 #text_change 21-Jan-2000
R:Tsuda, K.; Kiyama, T.; Kato, H.; Brader, C.D.; Takeda, J.; Reisine, T.; Bell, G.I.
Proc. Natl. Acad. Sci. U.S.A. 90, 6736-6740, 1993

A/Title: Cloning and functional comparison of kappa and delta opioid receptors from m
A/Reference number: A48227; MUID:93342064; PMID:8393575
A/Accession: A48227
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-380 <YAS>
A/Cross-references: GB:L11055; NID:9484240; PID:AAA39363.1; PID:9484249
R:Li, B.; Li, S.; Augustin, J.S.; Augustin, J.S.; F.; Chen, R.C.; Loh, R.H.; Wei, L.N.
Biochem. Biophys. Res. Commun. 205, 1353-1357, 1994
A/Title: Cloning and promoter mapping of mouse kappa opioid receptor gene.
A/Reference number: JC4138; MUID:95251663; PMID:7733933
A/Accession: JC4138
A/Molecule type: mRNA
A/Residues: 1-380 <LIU>
A/Note: The authors translated the codon CAG for residue 365 as Glu
C/Comment: This receptor exists in different areas of the central and peripheral nerv.
C/Genetics:
A/Gene: kor
C/Superfamily: vertebrate rhodopsin
C/Keywords: Brain; G protein-coupled receptor; glycoprotein; phosphoprotein; transmem

Query Match 53.3%; Score 1126; DB 2; Length 380;
Best Local Similarity 55.3%; Pred. No. 3.2e-87;
Matches 227; Conservative 54; Mismatches 80; Indels 22; Gaps 9;

Qy 7 PCNTSCDPLAQCSPAPGSM-LNLSHYDQNSDPCGLNRTGLGND-SLCPTGSP 64
Db 12 PQPT-----P8ACLLPNSSSPFPMNAESDSNGS-----VGSDDQOLLEPAH18P 57

Qy 65 MYVTAITMALYSICVVGFLGFLNFMVYVIRTKMTATNIYIPNALADALATSLTP 124
Db 58 IPWIT--AYTSVPVVGVLGNSLVMFVIRTKMTATNIYIPNALADALATSLTP 115

Qy 125 QSVNYLMTGTPPTGLCKIVISIDYNNMTSIFPLCTMSVDYVAVCHPVKALDPTPN 184
Db 116 SAVLANSWFLGPDVLCXIVISIDYNNMTSIFPLCTMSVDYVAVCHPVKALDPTPL 175

Qy 185 KVVNVGMWLSAIGLPMFMATTKYRQ--GSIDCLTFSHPM-YWENLLKICVPFPA 241
Db 176 KINICVLLASVGSISAVLGGTKYREDVDVIECSLQPPDEYSWMDLPMKICVPFPA 235

Qy 242 FIMPLIITVCYGLMILKLSVRMLSGSKERNLRITRMVAVVAVVTCVPIHYV 301
Db 236 FVLPVLIIVCTTILMLKLSVRLLSGSKERNLRITKLVVAVVAVVTCVPIHPI 295

Qy 302 IKALITPETPTQVSHFCIALQTNCLNVLVAVLDENFKCEPCPTSTSTEQ 361
Db 296 LVKAGTSHSTAVLSSTFYCALQTNCLNVLVAVLDENFKCEPCPTSTSTEQ 355

Qy 362 QNSTRVONTREHPSTANTYDRTN 384
Db 355 QSTNRVA-NTVQDPASHMDVGGNN 377

RESULT 14
JC2434
kappa opioid receptor - mouse
C/Species: Mus musculus (house mouse)
C/Date: 21-Feb-1995 #sequence_revision 05-Apr-1995 #text_change 19-May-2000
R:Nishi, M.; Takahama, H.; Mori, M.; Nakagawa, K.; Takeuchi, T.
Biochem. Biophys. Res. Commun. 205, 1353-1357, 1994
A/Title: Structure and chromosomal mapping of genes for the mouse kappa-opioid receptor.
A/Reference number: JC2434; MUID:95100967; PMID:7802669
A/Accession: JC2434
A/Molecule type: mRNA
A/Residues: 1-380 <NIS>
C/Genetics:
A/Map position: 102-3
A/Accession: J02434
C/Superfamily: vertebrate rhodopsin
C/Keywords: receptor

GenCore version 5.1.4.P5 4578
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OM protein - protein search, using sw model

Run on: March 25, 2003, 09:55:58 ; Search time 18 seconds
Without alignments!
917,088 Million cell updates/sec

Title: US-10-039-645-1

Perfect score: 2111

Sequence: 1 MSSTGCGTSCDSDPLAQA.....TVDRTNHNLEAETAPLP 398

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 6.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: SwissProt_40.1

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query	Score	Match	Length	ID	Description
1	2110	100.0	398	1	OPRM_RAT	P3535 rattus norv
2	2063	97.7	398	1	OPRM_MOUSE	P42866 mus musculu
3	1999	94.7	400	1	OPRM_HUMAN	P35772 homo sapien
4	1982	93.9	400	1	OPRM_MACMU	Q95247 macaca mula
5	1954.5	92.6	401	1	OPRM_PIG	Q95247 mus scrofa
6	1949.5	92.3	401	1	OPRM_HUMAN	P41144 bos tauru
7	1948.5	92.3	401	1	OPRM_HUMAN	P41144 bos tauru
8	1146.3	54.3	372	1	OPRM_MOUSE	P32100 mus musculu
9	1146.3	54.3	372	1	OPRM_MOUSE	P32100 mus musculu
10	1139.5	54.0	372	1	OPRM_MOUSE	P41144 cavia porce
11	1133	53.7	380	1	OPRM_HUMAN	P41145 homo sapien
12	1129	53.5	380	1	OPRM_MOUSE	P34975 rattus norv
13	1126	53.3	380	1	OPRM_MOUSE	P35354 mus musculu
14	977	46.3	367	1	OPRM_RAT	P35370 rattus norv
15	976.5	46.3	367	1	OPRM_HUMAN	P41146 homo sapien
16	974	46.1	367	1	OPRM_MOUSE	P35377 mus musculu
17	967.5	45.8	370	1	OPRM_MOUSE	P35372 mus musculu
18	966.5	45.8	370	1	OPRM_MOUSE	P35372 mus musculu
19	963	45.2	372	1	OPRM_MOUSE	P35372 mus musculu
20	693	32.8	391	1	SSR1_RAT	P28246 rattus norv
21	691	32.7	391	1	SSR1_MOUSE	P30873 mus musculu
22	689.5	32.7	391	1	SSR1_HUMAN	P30872 homo sapien
23	683	32.4	369	1	SSR2_MOUSE	P30875 mus musculu
24	678	32.1	369	1	SSR2_RAT	P30680 rattus norv
25	670	31.7	384	1	SSR4_RAT	P30537 rattus norv
26	669	31.7	369	1	SSR2_PIG	P34994 bos tauru
27	666	31.5	368	1	SSR2_BOVIN	P49660 mus musculu
28	659.5	31.4	384	1	SSR4_MOUSE	P31371 homo sapien
29	658.5	31.2	388	1	SSR4_HUMAN	P31371 homo sapien
30	653	31.0	379	1	SSR5_MOUSE	C08858 mus musculu
31	653	31.0	382	1	SSR5_MOUSE	C08858 mus musculu
32	637	30.2	363	1	SSR5_RAT	P30538 rattus norv
33	625.5	29.6	364	1	SSR5_HUMAN	P35346 homo sapien

ALIGNMENTS

ID	OPRM_RAT	OPRM_RAT	STANDARD	OPRM_RAT	398 AA.
34	592.5	28.1	333	1	OPRM_HUMAN
35	590	27.9	418	1	SSR3_HUMAN
36	587.5	27.8	428	1	SSR3_MOUSE
37	584	27.7	428	1	SSR3_RAT
38	559	26.5	328	1	OPRM_HUMAN
39	517	24.5	98	1	OPRM_MOUSE
40	458	21.5	387	1	OPRM_HUMAN
41	454.5	21.5	387	1	OPRM_MOUSE
42	449	21.3	349	1	OPRM_HUMAN
43	449	21.3	349	1	OPRM_MOUSE
44	446.5	21.2	346	1	OPRM_RAT
45	442	20.9	353	1	OPRM_RAT

RESULT 1

OPRM_RAT

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

OC NCBI_TaxID=10116;

RN [1]

SEQUENCE FROM N.A.

RC MEDLINE=93351452; PubMed=8394245;

RX MEDLINE=93351452; PubMed=8394245;

RA Fukuda K, Kato S, Mori K, Nishi M, Takeshima H, et al. (1993).

RT "Primary structures and expression from cDNAs of rat opiod receptor delta- and mu-subtypes."

RL PNAS Lett. 327:311-314(1993).

RN [2]

SEQUENCE FROM N.A.

RC MEDLINE=94052137; PubMed=8234282;

RX MEDLINE=94052137; PubMed=8234282;

RA Wang J.-B., Imai Y., Spivak M.C., Gregor P., Spivak C., Uhl G.R.; et al. (1993).

RT "Mu opiate receptor: cDNA cloning and expression."

RL Proc. Natl. Acad. Sci. U.S.A. 90:10230-10234(1993).

RN [3]

SEQUENCE FROM N.A.

RC MEDLINE=93341493; PubMed=8393525;

RX MEDLINE=93341493; PubMed=8393525;

RA Chen Y., Westek A., Liu J., Hurley J.A., Yu L.; et al. (1993).

RT "Molecular cloning and functional expression of a mu-opioid receptor from rat brain."

RL Mol. Pharmacol. 44:18-12(1993).

RN [4]

SEQUENCE FROM N.A.

RC STRAIN=Sprague-Dawley; TISSUE=Brain;

RX STRAIN=Sprague-Dawley; TISSUE=Brain;

RA Sprague-Dawley; K. Kato S, Mori K, Nishi M, Takeshima H, et al. (1993).

RT "Submitted (SSP-1993) to the EMBL/GenBank/DBSJ databases."

RN [5]

SEQUENCE FROM N.A.

RC STRAIN=Sprague-Dawley; TISSUE=Olfactory bulb;

RX STRAIN=Sprague-Dawley; TISSUE=Olfactory bulb;

RA Thompson R.C., Mansour A., Akil H., Watson S.J.; et al. (1993).

RT "Cloning and pharmacological characterization of a rat mu opiod receptor."

RL Neuron 11:903-913(1993).

RN [6]

SEQUENCE FROM N.A.

RC STRAIN=Sprague-Dawley; TISSUE=Brain;

RX STRAIN=Sprague-Dawley; TISSUE=Brain;

RA Zarewsky R.L., George S.R., Nguyen T., Cheng R., Teateao J., et al. (1993).

RT "Cloning, characterization, and distribution of a mu-opioid receptor"

In rat brain.".

[7] Neurochem. 62:2099-2105(1994).

SEQUENCE OF 101-340 FROM N.A.

TISSUE-Macrophage;

MEDLINE=95251654; PubMed=773926;

Sedgi M., Roy S., Ramakrishnan S., Bide R., Loh H.H.;

"Complementary DNA cloning of a mu-opioid receptor from rat peritoneal macrophages";

Biochem. Biophys. Res. Commun. 209:563-574(1995).

SEQUENCE OF 356-391 FROM N.A.

MEDLINE=95172221; PubMed=7532594;

Zimprich A., Simon T., Hoell V.,

"Cloning and expression of the rat mu opioid receptor (MOR1B) which differs in agonist induced desensitization from MOR1";

FEBS Lett. 359:142-146(1995).

-1- FUNCTION. INHIBITS NEUROTRANSMITTER RELEASE BY REDUCING CALCIUM ION CURRENTS AND INCREASING POTASSIUM ION CONDUCTANCE. RECEPTOR

-1- SUBCELLULAR LOCATION. Integral membrane protein.

-1- SUBSTRATE SPECIFICITY. BRAIN IS EXPRESSED IN THE CEREBRAL CORTEX, CAUDATE PUTAMEN, NUCLEUS ACCUMBENS, SEPTAL NUCLEI, THALAMUS, HIPPOCAMPUS, AND HABENULA. NOT DETECTED IN CEREBELLUM.

-1- SIMILARITY. BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

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EMBL; D16349; BAA03852.1; --
EMBL; L20684; AAA41643.1; --
EMBL; L13069; AAA41630.1; --
EMBL; U02083; AAA70049.1; --
EMBL; U15455; AAA78760.1; --
EMBL; U15455; AAA78760.1; --
EMBL; 877863; NOT ANNOTATED_CDS.
EMBL; 875669; AAB33530.2; --
PIR; 834593; 834593.
InterPro; IPRO00276; GPCR_Rhodopsin.
Pfam; PF00001; 7cm1.1;
PRINTS; PR00237; GPCRHODOPSIN.
PROSITE; PS00237; G-PROTEIN RECP_F1_1; 1.
PROSITE; PS00262; G-PROTEIN RECP_F1_2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein;
Cytoplasmic tail; Lipase
CYTOPLASMIC (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
TRANSFERRIN 65 94
TRANSFERRIN 65 94
CYTOPLASMIC (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
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PALMITATE (POTENTIAL).
N-LINKED GLYCNAc (POTENTIAL).
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N-LINKED GLYCNAc (POTENTIAL).
N-LINKED GLYCNAc (POTENTIAL).
CARBOHYD 9 9
CARBOHYD 30 30
CARBOHYD 45 45
CARBOHYD 53 53

Newman D., Tran T., Lee D.S., Wen C., Xia Y., Lusis A.J.,
B.A. Biochem. J. 370(1997)1587-1593.
R.L. Characterization of the murine mu opioid receptor gene.*
J. Biol. Chem. 270(1997)1587-1593.
CC CC -1- FUNCTION: INHIBITS NEUROTRANSMITTER RELEASE BY REDUCING CALCIUM
CC CC ION CURRENTS AND INCREASING POTASSIUM ION CONDUCTANCE. RECEPTOR
CC CC FOR BETA-ENDORPHIN.
CC CC -1- SUBCELLULAR LOCATION: Integral membrane protein.
CC CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
CC CC This SNIPER PROT entry has been copied from a public database. It is produced through collaboration
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CC CC -----
CC EMBL, U10561; AA850673.1; -.
DR EMBL, U10558; AA850672.1; JOINED.
DR EMBL, U10560; AA850673.1; JOINED.
CC EMBL, U10560; AA850673.1; JOINED.
DR EMBL, U26915; AA881170.1; -.
DR EMBL, U19380; AA881678.1; -.
DR MGI, MGI:197441; Opmr.
DR InterPro: IPR000276; GPCR_Rhodopsin.
DR Pfam: PF00001; 7tm_1; 1.
DR PRINTS: PR00237; GPCRHODOPSIN.
DR PROSITE: PS00227; G_PROTEIN_RECPT_F1_1;
DR PROSITE: PS00227; G_PROTEIN_RECPT_F2_2.
CC CC G-protein coupled receptors. Transmembrane; Glycoprotein;
CC CC Phosphorylation; Lipoprotein; Palmitate.
CC CC DOMAIN 1 64 EXTRACELLULAR (POTENTIAL).
FT TRANSDOM 65 94 CYTOPLASMIC (POTENTIAL).
FT DONAIN 95 103 CYTOPLASMIC (POTENTIAL).
FT TRANSDOM 104 121 EXTRACELLULAR (POTENTIAL).
FT DONAIN 122 143 EXTRACELLULAR (POTENTIAL).
FT TRANSDOM 144 163 CYTOPLASMIC (POTENTIAL).
FT DONAIN 164 193 CYTOPLASMIC (POTENTIAL).
FT TRANSDOM 194 209 EXTRACELLULAR (POTENTIAL).
FT DONAIN 210 227 CYTOPLASMIC (POTENTIAL).
FT TRANSDOM 228 280 CYTOPLASMIC (POTENTIAL).
FT DONAIN 281 303 EXTRACELLULAR (POTENTIAL).
FT TRANSDOM 304 311 CYTOPLASMIC (POTENTIAL).
FT DONAIN 312 328 CYTOPLASMIC (POTENTIAL).
FT DONAIN 329 398 CYTOPLASMIC (POTENTIAL).
FT DISULFID 140 217 PALMITATE (POTENTIAL).
FT LIPID 351 351 PALMITATE (POTENTIAL).
FT FT CARBOHYD 9 3 N-LINKED (GLCNAC...) (POTENTIAL).
FT FT CARBOHYD 30 3 N-LINKED (GLCNAC...) (POTENTIAL).
FT FT CARBOHYD 46 46 N-LINKED (GLCNAC...) (POTENTIAL).
FT FT CONFLICT 22 22 C -- W (IN REP. 3).
FT SEQUENCE 398 AA; 44421 MW; DP81C758E2DA1978 CRC64;
SO Query Match 97.7%; Score 2063; DB 1; Length 398;
Best Local Similarity 97.5%; Pred. No. 1e-123;
Matches 388; Conservative 3; Mismatch 7; Indels 0; Gaps 0;

Oy 1 MDSSGTPNTSDCDPLAASCSPARGSWMLNSHWQNSDPCLNRTGLGGSHSLCPOT 60
DB 1 MDSSAGPNISDCSDPLAPSCSPARGSWMLNSHWQNSDPCLNRTGLGGSHSLCPOT 60

Oy 61 GSPSPMYATIALMYSVCVYGLFGNPLVMYIVTRTKTANTYIPNLAAADALST 120
DB 61 GSPSPMYATIALMYSVCVYGLFGNPLVMYIVTRTKTANTYIPNLAAADALST 120

Oy 121 LPQSPGVYATMGCTWGTTCVTVSYDYKMTSTPTCTMSUDRYAVNCVHVVALDRT 180
DB 121 LPQSPGVYATMGCTWGTTCVTVSYDYKMTSTPTCTMSUDRYAVNCVHVVALDRT 180

Oy 121 LPQSPGVYATMGCTWGTTCVTVSYDYKMTSTPTCTMSUDRYAVNCVHVVALDRT 180
DB 121 LPQSPGVYATMGCTWGTTCVTVSYDYKMTSTPTCTMSUDRYAVNCVHVVALDRT 180

Oy 181 PRNKAI VNVCKMILLSSAGLGWPFWATTKYRGOSICTLTITPSHTPMYNLKLKCVFIPA 240
DB 181 PRNKAI VNVCKMILLSSAGLGWPFWATTKYRGOSICTLTITPSHTPMYNLKLKCVFIPA 240

[illegible]

(2)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95107267; PubMed=7808419;
 RA Simonin P., Belfort K., Gaveriaux-Ruff C., Matthes H., Nappay V.,
 RA Lannes B., Micheletti G., Kieffer B.;
 RT "The human delta-opioid receptor: genomic organization, cDNA cloning,
 RT functional expression and distribution in human brain.";
 RM M.M. Pharmacol. 46:1015-1021 (1994).
 RP SEQUENCE FROM N.A.
 RA Graham D.;
 RL Submitted (FEB-1998), to the EMBL/GenBank/DBJ databases.
 (4)
 RP VARIANT PHS-27.
 RX MEDLINE=20434920; PubMed=10902041;
 RA Galarner J., Kranzler H.R.;
 RT "Variant detection at the novel opioid receptor (OPRD1) locus and
 RT population genetics of a novel variant affecting protein sequence.";
 RL Hum. Genet. 109:891-896 (2002).
 CC -1- FUNCTION: INCREASES NEUROTRANSMITTER RELEASE BY REDUCING CALCIUM
 CC ION CURRENTS AND INCREASING POTASSIUM ION CONDUCTANCE. HIGHLY
 CC STEREOSPECIFIC RECEPTOR FOR ENKEPHALINS.
 CC -1- SUBCELLULAR LOCATION: Integral membrane protein.
 CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
 CC
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 DR ENBL: U07882; AAL8789.1; ..
 DR ENBL: U10504; AAB3426.1; ..
 DR ENBL: A005181; CAAL5671.1; ..
 DR Genav; HGNC:8153; OPRD1.
 DR MIM; 165195; ..
 DR InterPro; IPR000276; GPCR_Rhodopsin.
 DR Pfam; PF00001; 7tm_1; 1.
 DR PRINTS; PR00237; GPCRHOOPS.
 DR PROSITE; PS00237; G-PROTEIN RECP FI_1; 1.
 DR PROSITE; PS0262; G-PROTEIN RECP FI_1; 1.
 KW G-protein coupled receptor; Transmembrane; Potentiolum;
 KW Neurotransmission; Lipoprotein; Extracellular (POTENTIAL).
 FT TRANSMEM 46 75
 FT DOMAIN 76 84
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 FT DOMAIN 103 124
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 FT LIPID 333 333
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 SQ SEQUENCE 372 AA; 40368 MW; 90483FC39EABD8A CRC64;
 Query Match 54.4%; Score 1148.51; DB 1; Length 372;
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Matches 223; Conservative 40; Mismatches 96; Indels 7; Gaps 2;
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 QY 75 YSVGV 134
 DB 75 YSVGV 134
 DB 56 YSAVGV 115
 QY 135 PGTILCKIVISIDYNNMPTISPTLCTMSVDYIAVCHPVKALDPRTPNNAKIVVNCMIL 194
 DB 135 PGTILCKIVISIDYNNMPTISPTLCTMSVDYIAVCHPVKALDPRTPNNAKIVVNCMIL 194
 DB 116 PGLSLCKVLAVLDYNNMPTISPTLCTMSVDYIAVCHPVKALDPRTPNNAKIVVNCMIL 175
 QY 195 SBAIGLVPMPATTKVROGSDICTLTSHPTWYWNLLKICVFIAPFIMPILITVCTGL 254
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 DB 176 AGVGVPVPMVAVTRDQAVGVGVGVGVGVGVGVGVGVGVGVGVGVGVGVGVGVGVGV 235
 QY 255 MRLKSVRLKSGKSK 313
 DB 255 MRLKSVRLKSGKSK 313
 DB 236 MLLKSVRLKSGKSK 295
 QY 314 QTVSWHPCALGYTNSCLNPLVYAPLDNPKGCPKPCIPITSSSTTEQONSIVRONTRH 373
 DB 296 VVAALHCLALGVANSLNPLVYAPLDNPKGCPKPCIPITSSSTTEQONSIVRONTRH 373
 QY 374 PSTANT 379
 DB 374 PSTANT 379
 DB 356 RVTACT 361
 DB 356 RVTACT 361
 RESULT 8
 OPRD1 MOUSE STANDARD; PRT; 372 AA.
 AC P23260;
 DT 01-OCT-1993 (Rel. 27, Created)
 DT 01-OCT-1993 (Rel. 27, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE Delta-type opioid receptor (DOR-1) (K56) (MSL-2).
 GN OPRD1.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Mus.
 OX NCBI_Taxid=10090;
 RP SEQUENCE FROM N.A.
 RX MEDLINE=93101664; PubMed=1334555;
 RA Kieffer B.L., Belfort K., Gaveriaux-Ruff C., Hirth C.G.;
 RT "The delta-opioid receptor: isolation of a cDNA by expression cloning
 RT and pharmacological characterization.";
 RL Proc. Natl. Acad. Sci. U.S.A. 89:12048-12052 (1992).
 RN (2)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (3)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (4)
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 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
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 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (6)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
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 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (8)
 RP SEQUENCE FROM N.A.
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 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (9)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (10)
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 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
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 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (11)
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 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (12)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
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 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (14)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (15)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (16)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=9310361; PubMed=1335167;
 RA Evans C.J., Keith D.B. Jr., Morrison H., Magendzo K., Edwards R.H.;
 RT "Cloning of a delta-opioid receptor by functional expression
 RT cloning.";
 RL Science 258:1192-1195 (1992).
 RN (17)
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 CC STEREOSELECTIVE. RECEPTOR FOR ENKEPHALINS.
 CC -1- SUBCELLULAR LOCATION. INTEGRAL MEMBRANE PROTEIN.
 CC -1- TISSUE SPECIFICITY. BRAIN. WITH HIGH CONCENTRATIONS IN THE BASAL
 CC GANGLIA AND LIMBIC REGIONS.
 CC -1- SIMILARITY. BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
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 CC PRINTS; PR00237; GPCRHOOPS.
 CC PROSITE; PS00237; G-PROTEIN RECEPTOR P1_1; 1.
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DB 295 LVALGSGTSHSTALSSYYFCIALGNTSSNLNVLVAFDENPKRCDFPCFPIKRMERQ 354
 QY 361 QNSTRVQNTREHPTSTANTYDRTN 384
 DB 355 QSTRNVR-NTVDQPSMRDVGGMN 377

RESULT 13
 OPBK_MOUSE STANDARD; PRT: 380 AA.
 ID P31534
 AC 01-FEB-1994 (Rel. 28, Created)
 DT 01-FEB-1994 (Rel. 28, Last sequence update)
 DE 16-OCT-2001 (Rel. 40, Last annotation update)
 DR Kappa-type opioid receptor (OPK-1) (MSL-1).
 GN OPK-1
 OR Mus. musculus (Mouse).
 OC Eukarya; Metazoa; Chordata; Craniata; Vertebrata; Eucariotomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OK NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TIGR-Brain;
 RA MEDLINE=93342064; PubMed=89393575;
 RA Yeuda K., Raynor K., Kong H., Broder C.D., Takeda J., Reisine T.,
 RA Bell G.I.;
 RA Cloning and functional comparison of kappa and delta opioid
 RT receptor cDNAs from mouse brain;
 RL Proc. Natl. Acad. Sci. U.S.A. 90:6736-6740(1993).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=95100967; PubMed=7802669;
 RA Nishi M., Takashima H., Mori M., Nakagawa K.I., Takeuchi T.;
 RA Structure and chromosomal mapping of genes for the mouse
 RT kappa-opioid receptor and an opioid receptor homologue (MOR-C).
 RL Biochem. Biophys. Res. Commun. 205:1353-1357(1994).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=9521863; PubMed=7713933;
 RA Liu H.H., Augustin L.B., Felleheim R.P., Chen H.C.,
 RA L.H.H., Wei L.N.;
 RT Cloning and promoter mapping of mouse kappa opioid receptor gene.
 RL Biochem. Biophys. Res. Commun. 209:639-647(1995).
 RN [4]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=96084989; PubMed=7499487;
 RA Belkowski S.M., Zhu J., Liu-Chen L.Y., Eisenstein T.K.,
 RA Adler M.M., Rogers T.J.;
 RT Sequence of kappa-opioid receptor cDNA in the R1.1 thymoma cell
 RT line.
 RL J. Neuroimmunol. 62:112-117(1995).
 CC -1- ION CURRENTS AND INCREASING POTASSIUM ION CONDUCTANCE. RECEPTOR
 CC FOR DYNORPHINS MAY PLAY A ROLE IN AROUSAL AND REGULATION OF
 CC AUTONOMIC AND NEUROENDOCRINE FUNCTIONS.
 CC -1- SUBCELLULAR LOCATION: Integral membrane protein.
 CC TISSUE SPECIFICITY: BRAIN (NEOCORTEX, HIPPOCAMPUS, AND PARABRACHIAL
 CC MEDIAL HABENULA, HYPOTHALAMUS, LOCUS CERULEUS, AND PARABRACHIAL
 CC NUCLEUS).
 CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
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 CC modified and this statement is not removed. Usage by and for commercial
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 CC or send an email to license@isb-emb.ch).
 CC
 CC EMBL; L11065; AAA32963.1;
 CC EMBL; D31665; BAA06508.1;
 CC EMBL; D31663; BAA06508.1; JOINED.
 CC EMBL; D31664; BAA06508.1; JOINED.

DR EMBL; S77872; AAB34130.2;
 DR EMBL; S77869; AAB34130.2; JOINED.
 DR EMBL; S81111; -; NOT_ANNOTATED_CDS.
 DR PIR; A48227; A48227.
 DR MGI; MGI:197439; Otrk1.
 DR InterPro; IPR000276; GPCR_Rhodopsin.
 DR InterPro; IPR000832; GPCR_secretin.
 DR Pfam; PF00001; 7tm1; 1.
 DR PRINTS; PRO0237; GPCR_Rhodopsin.
 DR PROSITE; PS0262; G-PROTEIN_RECEP_FL_1.
 KW G-protein coupled receptor; Transmembrane; Glycoprotein;
 KW Palmitate; Lipid; Palmitate; EXTRACELLULAR (POTENTIAL).
 FT DOMAIN 59 85
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 FT TRANSMEM 334 380
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 FT LIPID 345 345
 FT CARBOHYD 25 25
 FT CARBOHYD 39 39
 FT CONFLICT 211 211
 FT CONFLICT 231 231
 FT CONFLICT 231 231
 SQ SEQUENCE 380 AA; 42652 MW; PAFPC947D4545318 CRC64;

Query Watch 53.34; Score 11261; DB 1; Length 380;
 Best Local Similarity 59.31; Pred. No. 1.4e-64;
 Matches 227; Conservative 54; Mismatches 80; Indels 22; Gaps 9;

QY 7 PONTSDCSDELQACSPAPKSMI-NLSHVDGNQSDPCGLNRTGLGNDSLCFTQ-SPS 64
 DB 12 POPT--CS---PSACLLPHSSSWFPNARSNGS-----VGSEDOQLSAHSPA 57
 QY 65 MYTATIMALYSIVCVGLFGLNPLNMYIVRYTKNTATNIVINLADNATSTLPQ 124
 DB 58 IPVIT--AVISVFFVGLVNSLWPIITITOKNTNIVINLADNATSTLPQ 115
 QY 125 SYNYLGMTPEGTILCKIVISIDYNNMPTSIPTLCTNSVDRIYAVCHPVKALDPTRNA 184
 DB 116 SAVTLNWSPPDVLCKIVISIDYNNMPTSIPTLCTNSVDRIYAVCHPVKALDPTRNA 175
 QY 185 KIVNVCNMLSSAIGLPMVPMATTKYRQ--GSIDCTLTFSHTW--YENLLKICVTIPAP 241
 DB 176 KIIMICMLASVIGAILOGTKVRDVEDVECSLPDDPDYSWDLPMKICVYAF 235
 QY 242 IMPIILITVGLMILKSVMLSGSKGRHLRITRMVLVPAVAVVTPPHIYVE 301
 DB 236 VIPVLIIVCTILRLASVLLSSRSRDLRLITKLVLVVAVFICTPHIPIIL 295
 QY 302 IKALITIPETTCVTSWHPICATYNSCLAPVLYFLDENPKRCDFPCFPIKRMERQ 361
 DB 296 VVALGSGTSHSTALSSYYFCIALGNTSSNLNVLVAFDENPKRCDFPCFPIKRMERQ 355
 QY 362 NSTRVQNTREHPTSTANTYDRTN 384
 DB 356 STNRVR-NTVDQPSMRDVGGMN 377

RESULT 14
 OPBK_MOUSE STANDARD; PRT: 367 AA.
 ID OPBK_MOUSE

PT LIPID 334 334 PALMITATE (POTENTIAL) .
PT CARBOHYD 21 21 N-LINKED (GLCNAC. . .) (POTENTIAL) .
PT CARBOHYD 28 28 N-LINKED (GLCNAC. . .) (POTENTIAL) .
PT CARBOHYD 39 39 N-LINKED (GLCNAC. . .) (POTENTIAL) .
PT VARSPLIC 74 78 MISSING (IN ISOFORM 2).
SQ SEQUENCE 370 AA; 40693 MW; 61370DC084D093BA CRC64;
Query Match 46.3%; Score 976.5; DB 1; Length 370;
Best Local Similarity 50.6%; Pred. No. 3.76-55;
Matches 197; Conservative 50; Mismatches 103; Indels 39; Gaps 6;
Qy 24 PARGSN--LHLSHVDKQSPGCLARTGCGDGLCPTGSPSNV-----TAI 69
Db 6 PAP-PWEIVYGSLLQNLB-----LSPNHSLLP---PHLLNASHCAPLPLGLKV 52
Qy 70 TIMALYSIVCVGLFQNFVLYMYVYTKTKATNIYIFNLALADALATSTLPQSVNYL 129
Db 53 TIVGLYLAVCVGLLGHCLVYVYLSHTTKTKATNIYIFNLALADTLLVLLTLPQGDIL 112
Qy 130 MGTWPPDTILCKVISIDYNNPTSIPTLCNMSVDRIYACHPVKALDPTPRNAKIVW 189
Db 113 LQFPFFGNALCKTVIAIDYNNPTSIPTLCNMSVDRIYACHPVKALDPTPRNAKIVW 172
Qy 190 CNWILSBAIGLPWNPATTKYRGSIDCTLTFSHTNNKELKICVPIFPIWILLIT 249
Db 173 AIMALASVGVVPAVMGSAQVDEBEICLVIEPTPDYNGVPFALCIPFSPFIVPLVLS 232
Qy 250 VCGLMILRLKSVRLSGSKEDNRLRIITRMVLVAVVAVIVCVTPHIVVITKALITP 309
Db 233 VCYSLMIRLRGVRLSGSKEDNRLRIITRMVLVAVVAVIVCVTPHIVVITKALITP 292
Qy 310 BTTFQVSMHFICALGTYNSCLNPLVYAPLDENPKGCPREPCIPSTSTISQONSTRVON 369
Db 293 SSETAVAILRPTCLAGTYNSCLNPLVYAPLDENPKGCPREPCIPSTSTISQONSTRVON 352
Qy 370 TREHPTANTVORTHQLENLEASTAPLP 398
Db 353 AKDVALACKT-----SETVPRP 369

Search completed: March 25, 2003, 09:56:32
Job time : 19 secs


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Db 1 MDSBAGPNIISDCSDPLAPASCSPARGSMNLSHVGNQSDPCPNRTGLGSHSLCPOT 60
Oy 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Db 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Oy 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Db 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Oy 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Db 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Oy 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Db 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Oy 301 IKALITIPETTFQVSMHFCIALQVYNSGPNVLAFLDENPKRCPEECIPTSSTIEQ 360
Db 301 IKALITIPETTFQVSMHFCIALQVYNSGPNVLAFLDENPKRCPEECIPTSSTIEQ 360
Oy 361 QNSVTRVONTREHPSTANTVORTNHQLEAS 393
Db 361 QNSARIRONTREHPSTANTVORTNHQKLOSQ 393

RESULT 2
QSVIYI PRELIMINARY; PRT; 390 AA.
AC QSVIYI
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE Mu oploid receptor variant A.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CD-1.
RA Pen Y.-X., Xu J., Chang A., Pasternak G.W.,
RT Identification and characterization of a mouse oploid mu-opioid
RL Receptor (MOR-1) from the EMBL/GenBank/DBJ databases.
RL EMBL, AP167565; AAL55581.1.
DR EMBL, AP167565; AAL55581.1.
DR InterPro; IPR000276; GPCR_Rhodopsin.
DR Pfam; PF00001; 7tm.1.1.
DR PRINTS; PR00237; GPCRHOOPS.
DR PROSITE; PS00237; G_PROTEIN_RECP_F1_1; UNKNOWN.1.
DR PROSITE; PS00262; G_PROTEIN_RECP_F1_2; 1.
KM G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
SQ SEQUENCE 390 AA; 43563 MW; 69586A686C255294 CRC64;

Query Match 94.9%; Score 2004; DB 11; Length 390;
Best Local Similarity 97.3%; Pred. No. 4,36-173;
Matches 376; Conservative 4; Mismatches 7; Indels 0; Gaps 0;

Oy 1 MDSBAGPNIISDCSDPLAPASCSPARGSMNLSHVGNQSDPCPNRTGLGSHSLCPOT 60
Db 1 MDSBAGPNIISDCSDPLAPASCSPARGSMNLSHVGNQSDPCPNRTGLGSHSLCPOT 60
Oy 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Db 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Oy 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Db 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Oy 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Db 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Oy 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Db 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
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Db 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Oy 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Db 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Oy 301 IKALITIPETTFQVSMHFCIALQVYNSGPNVLAFLDENPKRCPEECIPTSSTIEQ 360
Db 301 IKALITIPETTFQVSMHFCIALQVYNSGPNVLAFLDENPKRCPEECIPTSSTIEQ 360
Oy 361 QNSVTRVONTREHPSTANTVORTNHQLEAS 387
Db 361 QNSARIRONTREHPSTANTVORTNHQV 387

RESULT 3
QSVIYI PRELIMINARY; PRT; 444 AA.
AC QSVIYI
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
DE Mu oploid receptor variant P.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CD-1.
RA Pen Y.-X., Xu J., Bolen E., Chang A., Mahurter L., Rossi G.,
RT Isolation and expression of a novel alternatively spliced mu oploid
RT receptor isoform, MOR-1P.
RL FEBS Lett. 466:337-340(2000).
CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
DR EMBL; AP167568; AAF79213.1.
DR MGI; MGI:97411; Opmr.
DR InterPro; IPR000276; GPCR_Rhodopsin.
DR Pfam; PF00001; 7tm.1.1.
DR PRINTS; PR00237; GPCRHOOPS.
DR PROSITE; PS00237; G_PROTEIN_RECP_F1_1; 1.
DR PROSITE; PS00262; G_PROTEIN_RECP_F1_2; 1.
KM G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
SQ SEQUENCE 444 AA; 49094 MW; B813B108EB0BC762 CRC64;

Query Match 94.9%; Score 2004; DB 11; Length 444;
Best Local Similarity 92.5%; Pred. No. 56-173;
Matches 381; Conservative 4; Mismatches 9; Indels 18; Gaps 1;

Oy 1 MDSBAGPNIISDCSDPLAPASCSPARGSMNLSHVGNQSDPCPNRTGLGSHSLCPOT 60
Db 1 MDSBAGPNIISDCSDPLAPASCSPARGSMNLSHVGNQSDPCPNRTGLGSHSLCPOT 60
Oy 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Db 61 GSPSMVTATITMALYSIVCVGLPGNPLVMYVIRYVYRTYTKATNIYIFNLALADALATST 120
Oy 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Db 121 LPPOSVMYLMQTPWPTGLCKIVISIDYNTMFTSIPTLCTMSVDRIYVYVAVIYVCTPIHIYV 180
Oy 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Db 181 PNAKIVVNCWMLSSAIGLVPWPMATTKYRQSGIDCTLTFSHPYMWENLLKICVPIFA 240
Oy 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
Db 241 FIMPVLIIITVCYGLMILRLKSVRLMSGSKEDNRILRITRMVLVAVIYVCTPIHIYV 300
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OS Mus musculus (Mouse).
OC Mammalia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Eukaryota; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
RN [1]
RC STRAIN=CD-1.
RC From J. A. Chang A., Mahurter L., Pasternak G.W.,
RT Identification and characterization of a novel mu opiod receptor
RT splice variant (MOR-1B11).
EL SUBLMIT (JUL-1999) to the EMBL/GenBank/DBJ databases.
EL EMBL:AF167557; AAL55583.1.
DR InterPro; IPR000276; GPCR_Rhodopn.
DR Pfam; PF00001; 7tm.1.1.
DR PRINTS; PR00237; GPCRHOODPSN.
DR PROSITE; PS00237; G-PROTEIN_RECEP_F1_1; UNKNOWN_1.
DR PROSITE; PS00262; G-PROTEIN_RECEP_F1_2; 1.
KM Receptor.
SQ SEQUENCE 409 AA; 45911 MW; 2DC2D18224812A6 CRC64;
Query Match 94.9%; Score 2003; DB 11; Length 409;
Best Local Similarity 97.4%; Pred. No. 5.6e-173;
Matches 376; Conservative 3; Mismatches 7; Indels 0; Gaps 0;
Oy 1 MOSSTGPGTSDGSDPLAQAACSPAPGSLNLSHVQNGSDGPGNRTGLGDSILCPOT 60
Db 1 MOSAGAGPCHIDSDPLAPACSPAPGSLNLSHVQNGSDGPGNRTGLGDSILCPOT 60
Oy 61 GSPSMVTATITMALYSIVCVGLFGNPLVWVIVRYTQKTNIIYIFNLADALATST 120
Db 61 GSPSMVTATITMALYSIVCVGLFGNPLVWVIVRYTQKTNIIYIFNLADALATST 120
Oy 121 LPPQSVNLTGTPPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPKALDPT 180
Db 121 LPPQSVNLTGTPPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPKALDPT 180
Oy 181 PRNAKIVNVMWMLSSAIGLVPWPAATTKYRGSIDCTLTSPHTMYWENLKICVPFA 240
Db 181 PRNAKIVNVMWMLSSAIGLVPWPAATTKYRGSIDCTLTSPHTMYWENLKICVPFA 240
Oy 241 PIMPVLITTCVGLMILRLKSVMLSGSKKORNLRRITRMVLVVAIVPVCWTPPIHYV 300
Db 241 PIMPVLITTCVGLMILRLKSVMLSGSKKORNLRRITRMVLVVAIVPVCWTPPIHYV 300
Oy 301 IKALITITPTTQVSMHPICALGYTNSCLNPVLYADENPFCPCFPICPTSTSTIQ 360
Db 301 IKALITITPTTQVSMHPICALGYTNSCLNPVLYADENPFCPCFPICPTSTSTIQ 360
Oy 361 QNSTVRQNTREHPTANTVORTNQ 386
Db 361 QNSTVRQNTREHPTANTVORTNQ 386
RESULT 7
OYR001 PRELIMINARY; PRT; 438 AA.
AC Q95M54
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE Mu opiod receptor variant C.
GN OPRM.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
RN [1]
RC STRAIN=C57BL/6.
RC From J. A. Chang A., Mahurter L., Pasternak G.W.,
RT Identification and characterization of three new alternatively
RT splice variants (MOR-1B11, MOR-1B12, MOR-1B13).
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RT spliced mu-opioid receptor isoforms."
RL Mol. Pharmacol. 56:396-403(1999).
CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
DR EMBL:AF062753; A054415.1; -.
DR InterPro; IPR000276; GPCR_Rhodopn.
DR Pfam; PF00001; 7tm.1.1.
DR PRINTS; PR00237; GPCRHOODPSN.
DR PROSITE; PS00237; G-PROTEIN_RECEP_F1_1; 1.
DR PROSITE; PS00262; G-PROTEIN_RECEP_F1_2; 1.
KM G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
SQ SEQUENCE 438 AA; 48752 MW; C38EPA233DC7B6AF CRC64;
Query Match 94.9%; Score 2003; DB 11; Length 438;
Best Local Similarity 97.4%; Pred. No. 6e-173;
Matches 376; Conservative 3; Mismatches 7; Indels 0; Gaps 0;
Oy 1 MOSSTGPGTSDGSDPLAQAACSPAPGSLNLSHVQNGSDGPGNRTGLGDSILCPOT 60
Db 1 MOSAGAGPCHIDSDPLAPACSPAPGSLNLSHVQNGSDGPGNRTGLGDSILCPOT 60
Oy 61 GSPSMVTATITMALYSIVCVGLFGNPLVWVIVRYTQKTNIIYIFNLADALATST 120
Db 61 GSPSMVTATITMALYSIVCVGLFGNPLVWVIVRYTQKTNIIYIFNLADALATST 120
Oy 121 LPPQSVNLTGTPPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPKALDPT 180
Db 121 LPPQSVNLTGTPPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYVCHPKALDPT 180
Oy 181 PRNAKIVNVMWMLSSAIGLVPWPAATTKYRGSIDCTLTSPHTMYWENLKICVPFA 240
Db 181 PRNAKIVNVMWMLSSAIGLVPWPAATTKYRGSIDCTLTSPHTMYWENLKICVPFA 240
Oy 241 PIMPVLITTCVGLMILRLKSVMLSGSKKORNLRRITRMVLVVAIVPVCWTPPIHYV 300
Db 241 PIMPVLITTCVGLMILRLKSVMLSGSKKORNLRRITRMVLVVAIVPVCWTPPIHYV 300
Oy 301 IKALITITPTTQVSMHPICALGYTNSCLNPVLYADENPFCPCFPICPTSTSTIQ 360
Db 301 IKALITITPTTQVSMHPICALGYTNSCLNPVLYADENPFCPCFPICPTSTSTIQ 360
Oy 361 QNSTVRQNTREHPTANTVORTNQ 386
Db 361 QNSTVRQNTREHPTANTVORTNQ 386
RESULT 8
OYR001 PRELIMINARY; PRT; 400 AA.
AC Q95M54
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
OS Mu-opioid receptor variant C (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
NCBI_TaxID=9541;
RN [1]
RC STRAIN=FROM N.A.
RC From J. A. Chang A., Mahurter L., Pasternak G.W.,
RT Identification and characterization of three new alternatively
RT splice variants (MOR-1B11, MOR-1B12, MOR-1B13).
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Query Match 93.9%; Score 1982; DB 6; Length 400;
Best Local Similarity 92.0%; Pred. No. 4.3e-171;
Matches 371; Conservative 13; Mismatches 14; Indels 2; Gaps 1;

QY 1 MDSSGPGNTSDCSPLAQASCSA--PQSNLMLSHVDGNSDPCGLARTGLGNDLSCP 58
DB 1 MDSSAAPTASNTDALSASCSA--PQSNLMLSHVDGNSDPCGLARTGLGNDLSCP 60
QY 59 OTGSPKWTATITMALISVUCVGLFQNPVAVVYVNTTNTNTNIIIFNLADALAT 118
DB 61 PTGSPBNITATITMALISVUCVGLFQNPVAVVYVNTTNTNTNIIIFNLADALAT 120
QY 119 STLPPOSVNTLGMTWPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYAVCHPVKALDP 178
DB 121 STLPPOSVNTLGMTWPGTILCKIVISIDYNNMPTSIPTLCTMSVDRIYAVCHPVKALDP 180
QY 179 RTRPNAKIVVNCWMLSSAIGLWPMWPAATTKYRGSIQDCTLTFSHPMTWENLLKICVPI 238
DB 181 RTRPNAKIVVNCWMLSSAIGLWPMWPAATTKYRGSIQDCTLTFSHPMTWENLLKICVPI 240
QY 239 RPTNPMLIITVCTGLMLRLSKVMSKSKKDNLRITRNLVAVVAVVAVVAVVAVVAVV 298
DB 241 RPTNPMLIITVCTGLMLRLSKVMSKSKKDNLRITRNLVAVVAVVAVVAVVAVVAVV 300
QY 299 VYIIMKALITPTPTQVSWHFCIALQVNSCLNPVLYAPLDENPKRCPRFCPTSSNI 358
DB 301 VYIIMKALITPTPTQVSWHFCIALQVNSCLNPVLYAPLDENPKRCPRFCPTSSNI 360
QY 359 EQONSTRVQNTREHPSTANTVDRTHOLENLEASTAPLP 398
DB 361 EQONSTRVQNTREHPSTANTVDRTHOLENLEASTAPLP 400

RESULT 9
QSH573 PRELIMINARY; PRT; 454 AA.
ID OSH573
AC OSH573
DT 01-MAR-2001 (TRENBLrel. 16, Created)
DT 01-MAR-2001 (TRENBLrel. 16, Last sequence update)
DT 01-MAR-2001 (TRENBLrel. 20, Last annotation update)
DE DJ366P13.1 (opioid receptor mu 1).
GN OPRM1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
RA NCBI_TaxID=9606;
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J.
RX MEDLINE=21574637; PubMed=11717463;
RT "Generation of the mu opioid receptor (MOR-1) protein by three new
RT splice variants of the Opm gene."
RL Proc. Natl. Acad. Sci. U.S.A. 98:14084-14089(2001).
DR EMBL; AF062755; AAU34927.1; -.
DR InterPro; IPR000276; GPCR_Rhodopsin.
DR PRINTS; P00001; 7tm_1.
DR PROSITE; PS00237; G_PROTEIN_RECIP_F1_1; UNKNOW.
DR PROSITE; PS00262; G_PROTEIN_RECIP_F1_2; 1.
DR PROSITE; PS00262; G_PROTEIN_RECIP_F1_2; 1.
SQ SEQUENCE 330 AA; 37957 MW; EFE198DA945CFD69 CRC64;

Query Match 75.7%; Score 1597; DB 11; Length 330;
Best Local Similarity 98.4%; Pred. No. 2.3e-136;
Matches 300; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 94 VRTTOMKATNIIYFNLADALATSTLPQSNVYLMGTWPGTILCKIVISIDYNNMPT 153
DB 26 LRTTOMKATNIIYFNLADALATSTLPQSNVYLMGTWPGTILCKIVISIDYNNMPT 155
QY 154 SIPTLCTMSVDRIYAVCHPVKALDPRTPNAKIVVNCWMLSSAIGLWPMWPAATTKYRG 213
DB 86 SIPTLCTMSVDRIYAVCHPVKALDPRTPNAKIVVNCWMLSSAIGLWPMWPAATTKYRG 145
QY 214 SIDCTLTFSHPMTWENLLKICVPIFAPIMPVLIITVCTGLMLRLSKVMSKSKK 238
DB 146 SIDCTLTFSHPMTWENLLKICVPIFAPIMPVLIITVCTGLMLRLSKVMSKSKK 238
QY 274 NLRRITRMVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVV 298
DB 206 NLRRITRMVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVV 298
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Db 266 VLYAFDENPKCFRCFPCPTSTIEQNSARINQNTREHPSTANTVDTNHOENLEAB 325
Qy 394 TAPLP 398
Db 326 TAPLP 330

RESULT 11
ID QVINA PRELIMINARY; PRT: 325 AA.
AC QVINA
DT 01-MAR-2002 (TRENBLrel. 20, Created)
DT 01-MAR-2002 (TRENBLrel. 20, Last sequence update)
DT 01-JUN-2002 (TRENBLrel. 21, Last annotation update)
DE Mu opioid receptor isoform MOR-1N.
GN OPRM.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CSBK;
RA MEDLINE=21574637; PubMed=11714637;
RA Pan Y.X., Xu J., Mahurter L., Bolen E., Xu M., Pasternak G.W.;
RT "Generation of the mu opioid receptor (MOR-1) protein by three new
RT splice variants of the Opm gene.";
RL Proc. Natl. Acad. Sci. U.S.A. 98:14084-14089 (2001).
DR EMBL; AF260211; ALA5400.1; -
DR MDL; MG24974; GPCR_Rhodopsin.
DR PIR; P00001; 7cm.1; 1.
DR PRINTS; PR00237; GPCRHOOPS.
DR PROSITE; PS00237; G-PROTEIN RECEPTOR_F1_1; UNKNOWN_1.
DR PROSITE; PS0262; G-PROTEIN RECEPTOR_F1_2; 1.
SQ SEQUENCE 325 AA; 37479 MW; E245158D1F8B102 CRC64;

Query Match 72.8%; Score 1537; DB 11; Length 325;
Best Local Similarity 98.3%; Pred. No. 6.1e-131;
Matches 288; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Qy 94 VRYTKNTATNIVIPNALADALATSTLPPOSVNYLMTWPGTILCKIVISIDYNNPT 153
Db 26 LRYTKNTATNIVIPNALADALATSTLPPOSVNYLMTWPGTILCKIVISIDYNNPT 85

Qy 154 SIPTLCTNSVDRYAVCHPVKALDPTPRNAKIVNVCNMLSSAIGLPVPMATTKYQG 213
Db 86 SIPTLCTNSVDRYAVCHPVKALDPTPRNAKIVNVCNMLSSAIGLPVPMATTKYQG 145

Qy 214 SIDCTLPSHPPTWYNNLLKICVPIAPIMPILITVCYGLMILRLKSVNLSGSKEDR 273
Db 146 SIDCTLPSHPPTWYNNLLKICVPIAPIMPILITVCYGLMILRLKSVNLSGSKEDR 205

Qy 274 NURRTITMVLVAVVAVPVCWTPPHIVYIKALITPETTQTVSWHPCIALGYNSCLNP 333
Db 206 NURRTITMVLVAVVAVPVCWTPPHIVYIKALITPETTQTVSWHPCIALGYNSCLNP 265

Qy 334 VLYAFDENPKCFRCFPCPTSTIEQNSARINQNTREHPSTANTVDTNHO 386
Db 266 VLYAFDENPKCFRCFPCPTSTIEQNSARINQNTREHPSTANTVDTNHO 318

RESULT 12
ID QVINO PRELIMINARY; PRT: 370 AA.
AC QVINO
DT 01-MAR-2002 (TRENBLrel. 20, Created)
DT 01-MAR-2002 (TRENBLrel. 20, Last sequence update)
DT 01-JUN-2002 (TRENBLrel. 21, Last annotation update)
DE MOR-1M.
GN OPRM.
OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CSBK;
RA MEDLINE=21574637; PubMed=11714637;
RA Pan Y.X., Xu J., Mahurter L., Bolen E., Xu M., Pasternak G.W.;
RT "Generation of the mu opioid receptor (MOR-1) protein by three new
RT splice variants of the Opm gene.";
RL Proc. Natl. Acad. Sci. U.S.A. 98:14084-14089 (2001).
DR EMBL; AF260211; ALA54394.1; -
DR MDL; MG24974; GPCR_Rhodopsin.
DR PIR; P00001; 7cm.1; 1.
DR PRINTS; PR00237; GPCRHOOPS.
DR PROSITE; PS00237; G-PROTEIN RECEPTOR_F1_1; UNKNOWN_1.
DR PROSITE; PS0262; G-PROTEIN RECEPTOR_F1_2; 1.
SQ SEQUENCE 370 AA; 42289 MW; 3982458B31042392 CRC64;

Query Match 72.8%; Score 1537; DB 11; Length 370;
Best Local Similarity 98.3%; Pred. No. 7e-131;
Matches 288; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Qy 94 VRYTKNTATNIVIPNALADALATSTLPPOSVNYLMTWPGTILCKIVISIDYNNPT 153
Db 26 LRYTKNTATNIVIPNALADALATSTLPPOSVNYLMTWPGTILCKIVISIDYNNPT 85

Qy 154 SIPTLCTNSVDRYAVCHPVKALDPTPRNAKIVNVCNMLSSAIGLPVPMATTKYQG 213
Db 86 SIPTLCTNSVDRYAVCHPVKALDPTPRNAKIVNVCNMLSSAIGLPVPMATTKYQG 145

Qy 214 SIDCTLPSHPPTWYNNLLKICVPIAPIMPILITVCYGLMILRLKSVNLSGSKEDR 273
Db 146 SIDCTLPSHPPTWYNNLLKICVPIAPIMPILITVCYGLMILRLKSVNLSGSKEDR 205

Qy 274 NURRTITMVLVAVVAVPVCWTPPHIVYIKALITPETTQTVSWHPCIALGYNSCLNP 333
Db 206 NURRTITMVLVAVVAVPVCWTPPHIVYIKALITPETTQTVSWHPCIALGYNSCLNP 265

Qy 334 VLYAFDENPKCFRCFPCPTSTIEQNSARINQNTREHPSTANTVDTNHO 386
Db 266 VLYAFDENPKCFRCFPCPTSTIEQNSARINQNTREHPSTANTVDTNHO 318

RESULT 13
ID Q91224 PRELIMINARY; PRT: 291 AA.
AC Q91224
DT 01-DEC-2001 (TRENBLrel. 19, Created)
DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
DT 01-MAR-2002 (TRENBLrel. 20, Last annotation update)
DE Mu opioid receptor (Fragment).
GN MOR.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CSBK/6;
RA Zhou L., Rowley D.L., Mi Q.-S., Sefcovic N., Matthes H.W.,
RA Kieffer B.L.;
RA "Inter-strain polymorphisms alter targeting frequencies at the
RT mu opioid receptor gene.";
RL Mamm. Genome 0:0-0 (2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=129/9V;
RA Zhou L., Rowley D.L., Mi Q., Sefcovic N., Matthes H.W.D.,
RA Kieffer B.L., Donovan D.M.;
RA "Murine inter-strain polymorphisms alter recombination frequencies at
RT the MOR gene.";

Submitted (Feb-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AP347691; AAL24465.1; ..
 DR EMBL: AJ308511; CAC83776.1; ..
 DR InterPro: IPR000276; GPCR_rhodopsin.
 DR Pfam: PF00001; 7ca.1; 1.
 DR PROSITE: PS00237; G-PROTEIN RECEPTOR_F1_1; UNKNOWN_1.
 DR PROSITE: PS00262; G-PROTEIN RECEPTOR_F1_2; 1.
 DR G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
 PT Nucleotide sequence
 PT NON-TER 291 291
 SQ SEQUENCE 291 AA; 437067615CAAD47 CRC64;
 Query Match 72.5%; Score 1531; DB 11; Length 291;
 Best Local Similarity 98.6%; Pred. No. 1.9e-130;
 Matches 287; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 96 YTKMTATNIIYFNLAADALATSTLPQSNTLGTWPPGTILCKIVISIDYTMPTSI 155
 DB 1 YTKMTATNIIYFNLAADALATSTLPQSNTLGTWPPGTILCKIVISIDYTMPTSI 60
 QY 156 YALDENPKCEKRCIPPSSTIRQNSTVQNTREHPSYANVDRTHQ 386
 DB 61 PTLCTSDVRYIAVCHPVKALDPPTFRANKVNVCMWLSAIGLVWPAITRQSI 120
 QY 216 DCLTITPSHTWYENLKKICVIFAPIMPVLIITVCGMLILRLKSVMLSGSKEDKRL 275
 DB 121 DCLTITPSHTWYENLKKICVIFAPIMPVLIITVCGMLILRLKSVMLSGSKEDKRL 180
 QY 276 RRIIRNVLVVAVFVCMPTPIHIVIIKALITIPETFTQVSHHPFCIALGTNSCLNPVL 335
 DB 181 RRIIRNVLVVAVFVCMPTPIHIVIIKALITIPETFTQVSHHPFCIALGTNSCLNPVL 240
 QY 336 YALDENPKCEKRCIPPSSTIRQNSTVQNTREHPSYANVDRTHQ 386
 DB 241 YALDENPKCEKRCIPPSSTIRQNSTVQNTREHPSYANVDRTHQ 291
 RESULT 14
 ID Q98UH1 PRELIMINARY; PRT; 384 AA.
 AC Q98UH1, 01-JUN-2001 (TrEMBLrel. 17, Created)
 DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
 DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
 DE No opitoid receptor-like OR2.
 OS Eukaryotic varicella (Zebrafish) (Zebrafish)
 OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Cypriniformes;
 OC Cyprinidae; Danio.
 OX NCBI_TaxID=7955;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=20565716; PubMed=11113526;
 RA Barralio A., Gonzalez-Sarmiento R., Alvar F., Rodriguez R.E.;
 RT "ZPR2, a new opitoid receptor-like gene from the teleost zebrafish
 (Danio rerio).", Brain Res. 841:1-6(2000).
 CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
 DR EMBL: AP132813; AAK01143.1; ..
 DR InterPro: IPR000276; GPCR_Rhodopsin.
 DR Pfam: PF00001; 7ca.1; 1.
 DR PRINTS: PR00237; GPCR_Rhodopsin.
 DR PROSITE: PS00237; G-PROTEIN RECEPTOR_F1_1; 1.
 DR PROSITE: PS00262; G-PROTEIN RECEPTOR_F1_2; 1.
 DR G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
 SQ SEQUENCE 384 AA; 43185 MW; 1A376B5DE6D458C CRC64;
 Query Match 68.6%; Score 1449; DB 13; Length 384;
 Best Local Similarity 74.3%; Pred. No. 5.6e-123;
 Matches 289; Conservative 30; Mismatches 52; Indels 18; Gaps 6;

QY 9 NTDCSDPLAQCSPAPGSLWLSHVDGNSDPCGLNRTGLGNDLSLCPQT-----GSP 63
 DB 4 NTNISTD-LLYALSNPMVS---NS81LCRNPSSSGL-----VNRSSVCDRTPELKGST 55
 QY 64 SMYTAITNIALYSIVCV--VGLFQNPVVMVIVRYTKMTATNIIYFNLAADALATSTL 121
 DB 56 PTVIAIITNIALYSIVCVCMGGLVGVVVMVYIYTKMTATNIIYFNLAADALATSTL 115
 QY 122 PPSQNYLACTPPPTILCKIVISIDYTMPTSIPTLCTNSVDVRYIAVCHPVKALDPRT 181
 DB 116 PPSQNYLACTPPPTILCKIVISIDYTMPTSIPTLCTNSVDVRYIAVCHPVKALDPRT 175
 QY 182 RNKIVNVCMWLSAIGLVWPAITRQSI 238
 DB 176 RNKIVNVCMWLSAIGLVWPAITRQSI 235
 QY 239 FATPIMPVLIITVCGMLILRLKSVMLSGSKEDKRLRIIRNVLVVAVFVCMPTPIH 298
 DB 236 FATPIMPVLIITVCGMLILRLKSVMLSGSKEDKRLRIIRNVLVVAVFVCMPTPIH 295
 QY 299 YVIIKALITIPETFTQVSHHPFCIALGTNSCLNPVLAPDENPKCEKRCIPPSSTI 358
 DB 296 YVIIKALITIPETFTQVSHHPFCIALGTNSCLNPVLAPDENPKCEKRCIPPSSTI 355
 QY 359 EQNSTVQNTREHPSYANVDRTHQ 387
 DB 356 DLQNSTVQNTREHPSYANVDRTHQ 384
 RESULT 15
 ID Q42324 PRELIMINARY; PRT; 383 AA.
 AC Q42324, 01-JAN-1998 (TrEMBLrel. 05, Created)
 DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
 DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
 DE Mu-opitoid receptor.
 OS Catostomus commersoni (White sucker).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Cypriniformes;
 OC Catostomidae; Catostomus.
 OX NCBI_TaxID=7971;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97368346; PubMed=9223341;
 RA Barfield M.G., Green R., Harvey R.J., Kretzenkamp H.J., Stuenkel T.,
 RT "The mu-opitoid receptor from a lower vertebrate (Catostomus commersoni):
 Sequence, pharmacology, coupling to a G-protein-gated inward-
 rectifying potassium channel (GIRK1), and evolution.",
 RL Proc. Natl. Acad. Sci. U.S.A. 94:8214-8219(1997).
 CC -1- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
 DR EMBL: Y10904; CAA71843.1; ..
 DR InterPro: IPR000276; GPCR_Rhodopsin.
 DR Pfam: PF00001; 7ca.1; 1.
 DR PRINTS: PR00237; GPCR_Rhodopsin.
 DR PROSITE: PS00237; G-PROTEIN RECEPTOR_F1_1; 1.
 DR PROSITE: PS00262; G-PROTEIN RECEPTOR_F1_2; 1.
 DR G-protein coupled receptor; Glycoprotein; Receptor; Transmembrane.
 SQ SEQUENCE 383 AA; 43232 MW; F58838857A107305 CRC64;
 Query Match 67.0%; Score 1415; DB 13; Length 383;
 Best Local Similarity 71.9%; Pred. No. 7.8e-120;
 Matches 284; Conservative 28; Mismatches 63;
 QY 1 MGSSTGQNTSDCSDDLQAQSCSPAPG---
 DB 1 MGSSTGQNTSDCSDDLQAQSCSPAPG---
 QY

Db 50 DKTP-VIIAIIITLISIVCWLGVNVLVNYIIRVTKTKATNIYIFNLALADALATS 108
Qy 120 TLPPQSVNYLQNTMPGTILCKIVISIDYNNFTSIFTCTMSVDYIAVCHPVKALDPR 179
Db 109 TLPPQSVNYLQNTMPGTILCKIVISIDYNNFTSIFTCTMSVDYIAVCHPVKALDPR 168
Qy 180 TPRAXIYVNCNMLSSAIGLPPWPAATTKTRO-----GSIDCTLTPSHPTTKENVL 232
Db 169 TPRAXIYVNCNMLSSAIGLPPWPAATTKTRO-----GSIDCTLTPSHPTTKENVL 228
Qy 233 KICVPIAPIMPILITVCYGLMILKSVMLSGSKKORNLBRITRMVYVVAVPIVC 292
Db 229 KICVPIAPIMPILITVCYGLMILKSVMLSGSKKORNLBRITRMVYVVAVPIVC 288
Qy 293 WPIHIVIIKALITIPITPTPTVSWFPCIALQYTNLSCLNPVLYAFDENPKCFRPECI 352
Db 289 WPIHIVIIKALITIPITPTVSWFPCIALQYTNLSCLNPVLYAFDENPKCFRPECI 348
Qy 353 PPSSTISQNSSTRVQNTREHPSNTMTUDRTQOL 387
Db 349 PPSVILQNSSTRVQNTREHPSNTMTUDRTQOL 383

Search completed: March 25, 2003, 09:58:23
Job time : 41 seco